BMC

Journal of the Canadian
Health Libraries Association

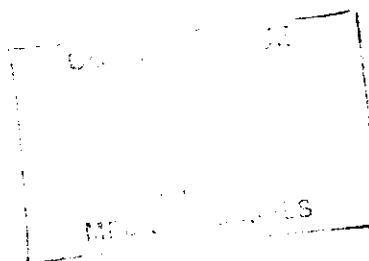# *Bibliotheca Medica Canadiana*

Le journal de l'Association des
bibliothèques de la santé du Canada

- Knowledge Transfer in Cyberspace
  and Future Business Practices

- UMLS Knowledge Sources and Canada

- Establishing Family Resource Libraries
  in Medical Settings

- Alberta-British Columbia DOCLINE
  Pilot Project

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BIBLIOTHECA MEDICA CANADIANA

The **Bibliotheca Medica Canadiana** is a vehicle providing for increased communication among all health libraries and health science librarians in Canada. We have a special commitment to reach and assist the worker in the smaller, isolated health library.

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La **Bibliotheca Medica Canadiana (BMC)** a pour objet de permettre une meilleure communication entre toutes les bibliothèques médicales et entre tous les bibliothécaires qui travaillant dans le secteur des sciences de la santé. Nous nous engageons tout particulièrement à atteindre et à aider ceux et celles qui travaillent dans les bibliothèques de petite taille et les bibliothèques relativement isolées.

Bibliotheca Medica Canadiana est publié 4 fois par année par l'Association des bibliothèques de la santé du Canada. Les articles paraissant dans **BMC** expriment l'opinion de leurs auteurs ou de la rédaction et non pas celle de l'Association.

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Editor's Message

Jan Johnson

Winter has taken a firm grip over northern British Columbia. In Prince George, world capital of pick-up trucks, the ubiquitous dog-in-the-back has long since been replaced with snowmobiles or mounds of salt and sand, vehicles' front grilles strapped with mats or cardboard as hopeful measures against the grimmer prospects of weather. School bus service is cancelled when the mercury reaches minus 35, and with temperatures dipping 15 to 25 degrees lower than normal, children have had many mornings to celebrate. The depth of the freeze has been conceded in the cancellation of a local skate/ski/run/swim marathon, for the first time in its nineteen-year history. You know it is cold when northerners abandon an event called the Iceman.

The collection of papers in this issue continues with the "Old World/New World" theme from the 1995 conference in St. John's, Newfoundland, although all clearly emphasise the "new world" aspect. Michel Bauwens, writing from Belgium, takes a wide overview of the implications of developments in knowledge transfer practices for future business operations. It isn't just information access that will be drastically changed with the use of cyberspace; the fundamental structures of bureaucracies and economic relationships will be altered as well.

Grace Paterson introduces us to the emerging world of medical informatics, and describes the Unified Medical Language System as a means of standardising the retrieval and integration of patient, medical and research information. For practitioners and researchers, the UMLS facilitates access of information from diverse sources despite the use of disparate vocabularies.

In support of the current emphasis on consumers as managers of their own health and well-being, Caren Mofford and Sharon Munro provide a practical guide to establishing a family resource library, from planning to evaluation. Their article is complemented by Peggy Yeh's review of Susan Murray's manual on developing a consumer health information service. Possible Web sites pointing to consumer health information are listed under a *Web Resources* column, which also includes an account by Shahida Rashid of the makings of a new Web page.

The final paper in this issue resulted from a call to CHLA/ABSC chapters for news of their latest developments. Beth Morrison and Jim Henderson describe a DOCLINE pilot project aimed at coordinating resources in Alberta and British Columbia. The project has the potential of opening document delivery services options for a number of libraries across provincial borders. We look forward to seeing part two of their paper evaluating the project, in a few months' time.

Beginning this issue, *BMC*'s publishing arrangements fall to Dorothy Davey, who has performed long-standing Secretariat duties for the Association. The change, based in the main on economic factors, should alleviate constraints on issue length. It is with pleasure that I include news from the Chapters in this issue. With a consistent need across the country to adapt to rapid restructuring, implementation of DOCLINE projects, accreditation processes and so on, it is hoped that a regular awareness of other chapter activities might help reduce reinvention of the wheel and foster open communication lines.

Just as fax machine numbers and Envoy addresses once cropped up bit by bit in library correspondence and in a short time became more or less obligatory, e-mail addresses are now following the same route. What I found striking while putting this issue together is that in addition to e-mail, contributors are now increasingly referring to their Web site addresses. In fact this seems to be the first issue where our contributors' (Bauwens, Paterson, Rashid, CISTI) or their member's (Flemming of GHHLA) Web pages are being mentioned.

This is an exciting development, and one which is sure to gain momentum. E-mail addresses now so common, first appeared in the *BMC* as far back as 1987 and 1988, with NETNORTH or BITNET addresses listed for the occasional Board member. Subsequent appearances are rather spotty until 1993, when such listings are prevalent. The first e-mail address for a contributing author appeared in 1992, from an American; the first for a Canadian contributor in 1993. A brief glance at just the past two years of the journal illustrates that the presence of an e-mail address is now the norm.

Speaking of this 'norm', if your success in arguing for a workplace connection to the Internet or a Web server has been less than complete, you will want to take a look at Sue Kurucz's review of an Internet handbook. Referral to such a resource may assist in bolstering your case.

Rounding out this spirited collection of readings is a report from our Resource Sharing Task Force and accompanying *Doctor DOCLINE* column, a report from CISTI, and reminders of the CHLA/ABSC 1996 conference and Telemedicine opportunities.

Thanks to all contributors for their diligence in meeting deadlines. Further contributions are welcome. Until next issue, if they can't entirely be escaped, may the rest of your winter at least be sheltered from Arctic outflow winds. ∎

A Word from the President

Lea Starr

As I write this, winter Solstice is but a few days away and already there has been an abundance of snow and very cold temperatures. The result is slow driving, large snow banks and cold noses. From the weather reports most of Canada seems to be sharing in the bounty of crystalline H_2O. However, while much of nature sleeps through winter, the board and membership of CHLA/ABSC do not hibernate but continue to accomplish significant work.

The Board met for long days at the fall meeting in Calgary. We were joined by the President of the Southern Alberta Health Libraries Association, Kim Polvi, who offered a helpful local perspective. I am hopeful that we can continue to benefit from such interaction by moving the Board meetings around the country. As our upcoming Conference will be in Toronto, we have planned our Winter board meeting in Ottawa, March 3-4. The CHLA/ABSC Task Force on Resource Sharing will meet with the new DOCLINE Coordinator at CISTI and the board with CISTI staff and representatives of other national organisations such as the Canadian Library Association.

At the Fall meeting the Board discussed the need for increased advocacy. Our meetings in Ottawa will provide opportunity for some initial steps in that direction. We have recognized that while our particular focus is information in health care, we can gain by working with other library organisations.

It was exciting to review several Development Fund Applications at the fall meeting. There are more in preparation. It is wonderful to see so many applications and the board is hopeful that we will award money at all of our future meetings. We approved $7000 towards this fund for the 1996 budget and would approve more if applications warrant it. I urge chapters to read the *Terms of Reference* in the *Directory* and prepare applications. The *CHLA/ABSC Development Fund Guidelines for Application for Funding* from the CHLA/ABSC Executive Manual have been incorporated into the *Directory*.

It is CHLA/ABSC's 20th Anniversary year. Plans for the CHLA/ABSC 1996 Conference in Toronto are developing nicely and I am excited by both the program and the location. The organising committee has developed a timely and challenging program including interesting CE courses. This milestone of our association will be marked with a commemorative poster. Please send any appropriate materials such as memorabilia, pictures from past conferences or previous boards to Anitra Laycock, Public Relations Director of the CHLA/ABSC. We are hoping that many past board members will be in attendance. Most importantly, I urge you to attend this conference in celebration of both our history and our future. The continuing changes driven by technology and health care reform will play significant roles in that future and these are only two of the topics on the program. The "Creative Connections" that you make both intellectually and with colleagues will contribute to your future.

Speaking of "futures", the Board has decided to hold the CHLA/ABSC "2000" conference in Vancouver in conjunction with MLA "2000". This wonderful opportunity will enable us to make more creative connections while considering our work in the next millennium. As CHLA/ABSC 1997 is in Vancouver, our 2000 conference will require an Organising Committee with national representation. I am looking for volunteers for this creative and challenging project.

Our Standards are selling well and they have been useful in my work as a hospital librarian for needs assessment. I hope you are becoming familiar with this publication as its scope goes beyond the "accreditation process" providing a solid blueprint for our practice. ASTED, Association pour l'avancement des sciences et des techniques de la documentation has had the Standards translated into French for use by our Quebec counterparts. This will also benefit other French-speaking Canadians and increase the salability of the Standards beyond the Canadian borders. This is our first formal collaboration with ASTED and we look forward to more!

The Board continues to struggle with the most effective way to complete a national "benchmarking" study. Discussions with other organisations have revealed that we are not alone in this struggle. In the meantime, we will participate formally in the NLC's (National Library of Canada) National Core Library Statistics program for 1995. Please complete and return the survey that comes with a letter from CHLA/ABSC. We are hopeful that the NLC will be able to isolate health libraries to provide a baseline of statistical information.

In early November, I was fortunate to join the Ontario Hospital Libraries Association at their annual meeting celebrating their 10th anniversary. This organisation meets as part of the Ontario Hospital Association Conference, the largest of its kind in North America. The program included a provocative panel discussion on experiences with the *Hospitals Information Management Team* as part of the accreditation process and a session on *Consumer Health--Theory to Practice*. Both were timely and informative. The conference tapes may be obtained from the OHLA executive.

The CHLA/ABSC Board has begun working on a brief to the National Forum on Health. As librarians, we are well aware of our significant contributions to effective health care. Research papers such as those by JG Marshall, MS Klein, and JE Burton provide documented evidence of the value of libraries. We need to replicate these studies in the Canadian experience. For the present however, I would appreciate your thoughts, comments and submissions so that the National Forum on Health brief will be representative and effective.

Spring is just around the corner. Soon we will all be thawing out and rising to meet the challenges of 1996. It is an exciting time to be a health librarian.

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1. Burton JE. The impact of medical libraries and literature on patient care in New Zealand. Bull Med Libr Assoc 1995;83:425-430.
2. Klein MS, et al. Effect of online literature searching on length of stay and patient care costs. Acad Med 1994; 69:489-95.
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Un Mot de la présidente

Lea Starr

Au moment où j'écris cette chronique, nous avons atteint le solstice d'hiver depuis quelques jours et nous sommes déjà aux prises avec une abondance de neige et des températures très froides. Nous en sommes réduits à conduire lentement, à nous dépêtrer avec les immenses amoncellements de neige et à nous geler le bout du nez. Les bulletins de météo indiquent que la plupart des régions du Canada semblent partager cette généreuse abondance de H_2O en cristaux. Toutefois, bien la nature vive au ralenti pendant la période hivernale, le Conseil et les membres de l'ABSC/CHLA n'entrent pas en hibernation et ils continuent d'accomplir une somme considérable de travail.

Les membres du Conseil se sont réunis pour de longues journées à la réunion d'automne à Calgary. Kim Polvi, présidente de la *Southern Alberta Health Libraries Association*, s'est jointe à notre groupe et nous a offert une perspective locale fort utile. J'espère que nous pourrons continuer de profiter d'une telle interaction en déplaçant les réunions du Conseil dans l'ensemble du pays. Comme notre prochain congrès aura lieu à Toronto, nous avons prévu tenir notre réunion d'hiver du Conseil à Ottawa les 3 et 4 mars prochains. Le Groupe de travail de l'ABSC/CHLA sur le partage des ressources rencontrera le nouveau coordonnateur de DOCLINE de l'ICIST et le Conseil rencontrera le personnel de l'ICIST et les représentants d'autres organisations nationales telles que la *Canadian Library Association*.

Lors de la réunion d'automne, le Conseil a discuté de la nécessité de mieux défendre nos intérêts. Nos réunions à Ottawa nous fourniront l'occasion d'adopter des premières mesures dans cette direction. Nous avons reconnu que, bien que notre principal intérêt est l'information dans le domaine des soins de santé, nous pouvons bénéficier du travail en collaboration avec d'autres organismes de bibliothèques.

Il a été très intéressant d'étudier plusieurs demandes de fonds de développement à la réunion d'automne. Il y en a encore plus en préparation. Il est merveilleux de constater que nous avons reçu un tel nombre de demandes et le Conseil espère que nous pourrons attribuer des fonds lors de toutes nos prochaines réunions. Nous avons approuvé l'allocation d'une somme de 7 000 $ à ce fonds dans notre budget 1996 et nous allons approuver encore plus de demandes qui le méritent. J'encourage les chapitres à lire le *cadre de référence* dans l'*Annuaire* et à soumettre des demandes. Les *Directives du Fonds de développement de l'ABSC/CHLA pour les demandes de financement* contenues dans le Manuel de la direction de l'ABSC/CHLA ont été intégrées à l'*Annuaire*.

Cette année, nous célébrons le 20e anniversaire de l'ABSC/CHLA. Les projets pour le Congrès 1996 de l'ABSC/CHLA à Toronto vont bon train et je suis fort satisfaite tant du programme que du lieu de la tenue du Congrès. Le Comité organisateur a élaboré un programme fort à propos et intéressant qui comprend notamment des cours de formation professionnelle. Cette date importante pour nos associations sera soulignée par une affiche commémorative. Veuillez donc faire parvenir tout document approprié tel que des souvenirs, des photographies des congrès passés ou des anciens conseils à Anitra Laycock, directrice des Relations publiques de l'ABSC/CHLA. Nous espérons que bon nombre des anciens membres du Conseil pourront y assister. Plus important encore, je vous encourage fortement à assister à ce congrès qui sera une célébration à la fois de notre histoire et de notre avenir. Les changements constants amenés par les nouvelles technologies et la réforme des soins de santé façonneront de manière plus marquée notre avenir et il ne s'agit que de deux des sujets à notre programme. Les *Creative Connections* (Liens créateurs) que vous faites intellectuellement avec vos collègues feront partie de votre avenir.

Parlant d'avenir, le Conseil a décidé de tenir le Congrès «2000» de l'ABSC/CHLA à Vancouver de concert avec *MLA «2000»*. Ce sera une magnifique occasion de faire encore plus de «liens créateurs» en réfléchissant à notre travail au cours du prochain millénaire. Étant donné que notre congrès 1997 se tiendra à Vancouver, notre congrès 2000 aura besoin d'un comité organisateur qui aura une représentation à l'échelle nationale. Je suis à la recherche de bénévoles qui voudraient participer à ce projet créatif et rempli de défis.

Nos normes se vendent très bien et elles m'ont été utiles dans mon travail en tant que bibliothécaire médicale à des fins d'évaluation des besoins. J'espère que vous vous êtes familiarisés avec cette publication étant donné que son champ d'application va plus loin que le «processus d'accréditation» et qu'il nous fournit de solides orientations pour notre pratique. L'ASTED, soit l'Association pour l'avancement des sciences et des techniques de la documentation a fait traduire en français ces normes à l'intention de nos homologues du Québec. Ceci sera également bénéfique aux autres Canadiens de langue française et accroîtra leur diffusion au delà des frontières canadiennes. Il s'agit de notre première collaboration formelle avec l'ASTED et nous espérons que ce ne soit pas la dernière.

Le Conseil continue de lutter pour trouver la méthode la plus efficace pour compléter une étude nationale sur «l'étalonnage». Lors de discussions avec d'autres organismes, nous avons découvert que nous n'étions pas seuls dans cette lutte. Dans cet ordre d'idée, nous allons participer officiellement au programme de statistiques nationales de base 1995 de la Bibliothèque nationale du Canada (BNC). Veuillez remplir et retourner le formulaire qui vous a été envoyé avec une lettre de l'ABSC/CHLA. Nous espérons que la BNC sera en mesure d'isoler les données concernant les bibliothèques de la santé. Ceci nous procurera une base de renseignements statistiques.

Au début de novembre, j'ai eu le bonheur de me joindre à l'*Ontario Hospital Libraries Association* lors de leur réunion annuelle qui commémorait leur 10e anniversaire de fondation. Cet organisme s'est réuni lors du Congrès de l'Association des hôpitaux de l'Ontario, soit le plus important événement du genre en Amérique du Nord. Le programme comprenait une discussion provocatrice en panel sur les expériences vécues avec les *Équipes de gestion de l'information en milieu hospitalier* dans le cadre du processus d'accréditation et une séance intitulée *Consommation des soins de santé : de la théorie à la pratique*. Ces deux activités ont été fort appropriées et très intéressantes. Vous pouvez obtenir des bandes enregistrées du Congrès en contactant la direction de

l'OHLA.

Le Conseil de l'ABSC/CHLA a commencé à travailler sur un mémoire qui sera présenté au Forum national sur la santé. En tant que bibliothécaires, nous sommes bien au courant de l'importance de notre contribution à l'efficacité des soins de santé. Des mémoires de recherches tels que ceux de J.G. Marshall, M.S. Klein et J.E. Burton donnent des preuves documentées de la valeur des services bibliothécaires. Nous devons reproduire ces études à l'échelle canadienne. Toutefois, pour l'instant, j'aimerais recevoir vos idées, vos commentaires et vos soumissions pour faire en sorte que le Forum national sur la santé soit représentatif et efficace.

Le printemps est pour bientôt. C'est avec une énergie renouvelée que nous ferons face aux défis de 1996. Les bibliothécaires de la santé traversent une période des plus excitantes.

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Knowledge Transfer in Cyberspace: a Model for Future Business Practices

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The starting point for this essay is a chart which summarises the different knowledge transfer practices which will dominate businesses and organisations in the next few years *(see figure)*. The practices described herein are entirely feasible today and are already practised by existing organisations. The chart is based on my personal experiences as a cybrarian, i.e. as information manager for a transnational company as well as consultancy assignments with advanced companies such as Buckman Laboratories. First, let's clear the way with some generalities: what exactly, is cyberspace and why is it so important?

Cyberspace: the Final Frontier?

Ermel Stepp calls it "the space of interactive computational possibilities, where computers and their contents are available to users of any participating computers, anywhere." (1) A more stringent definition comes from Michael Benedikt who defines cyberspace as "a globally networked, computer-sustained, computer-accessed, and computer-generated, multi-dimensional, artificial or 'virtual' reality." (2) For our purposes, we define it as both the space where the knowledge is stored (databases) and the space where the communication takes place. Our hypothesis is that just as our forebears spent most of their time in a natural environment, and current generations in architectural environments, we will soon spend the majority of our time in a digital environment. Our hypothesis is that future companies will operate in a total electronic information environment and that this has organisational consequences.

Why is cyberspace of such importance, why is it unavoidable? Let's first look at the exponential productivity gains involved by digitising information: let's compare the production of papyrus, printed books, and the one electronic book which can be instantly reproduced to a mass audience of millions. In our 'post-capitalist' society competitiveness is dependent on applying knowledge at all stages of production: value creation is foremost a matter of intellectual capabilities and mental labor, enhanced by computers (extensions of our minds) and robots (extensions of our bodies). It is the maxim, "it is cheaper to move information than people or things", which explains the growth of cyberspatial tools. Information and knowledge have to flow fast in order for the collective intelligence of the organisation to be applied, and this can only be done through the intermediary of computers.

Knowledge is the meta-resource which multiplies the effectiveness of other resources such as land, labor, and capital. This knowledge whether it is stored in databases, or whether it resides in the living minds of employees, is most effectively transmitted through electronic networks. Building a cyberspace environment is the most efficient means of pooling the minds and expertise of a company together, in real-time, 24 hours a day. The use of cyberspace is the best means for speeding up knowledge transfer and reducing the factor of time. In cyberspace, knowledge only has to be produced once and it can then be shared with anybody in the corporation, any place, at any time. Hence the use of cyberspace increases the transferability of information to an unprecedented degree: if I give a talk at a conference, perhaps one hundred people can hear me; if we print it, perhaps a few thousands; if we have this conversation in cyberspace, our whole working community (in theory, everybody who is interconnected) can learn from our exchange. In real time, if need be, and they can even participate!

... we define cyberspace as both the space where the knowledge is stored (databases) and the space where the communication takes place.

The use of cyberspace should not be restricted to management or even to so-called knowledge workers, but should be available throughout the corporation. Access to information empowers its users and lowers the level of operational decision-making (leading to flattening hierarchies), and simultaneously allows greater organisational control of complex processes. The use of cyberspace dramatically reduces the costs to transmit knowledge, and very quickly brings up the level of all members of the organisation. Cyberspace, especially the joint discussions over time, creates a community spirit that no vision-statement imposed from above can achieve.

Let's get back to our chart. We have distinguished three kinds of cyberspace. The first division distinguishes external cyberspace from internal cyberspace. External cyberspace is the vast collection of data and expertise available in the world outside, through electronic networks and databases. Internal cyberspace is the collection of data and expertise available within a company. Obviously, a company needs both. Internal knowledge has to be protected from the outside, but has to be made available to all those who need it; external knowledge has to be accessible when needed, and integrated into internal knowledge through a series of processes. The second division distinguishes 'living knowledge' from 'archival cyberspace'. Indeed as the need for knowledge changes over time, experience is formalised and codified, and kept for later retrieval. Each company therefore builds an archival cyberspace, the accumulated wisdom of the company. This finds its expression in a collection of case studies for example.
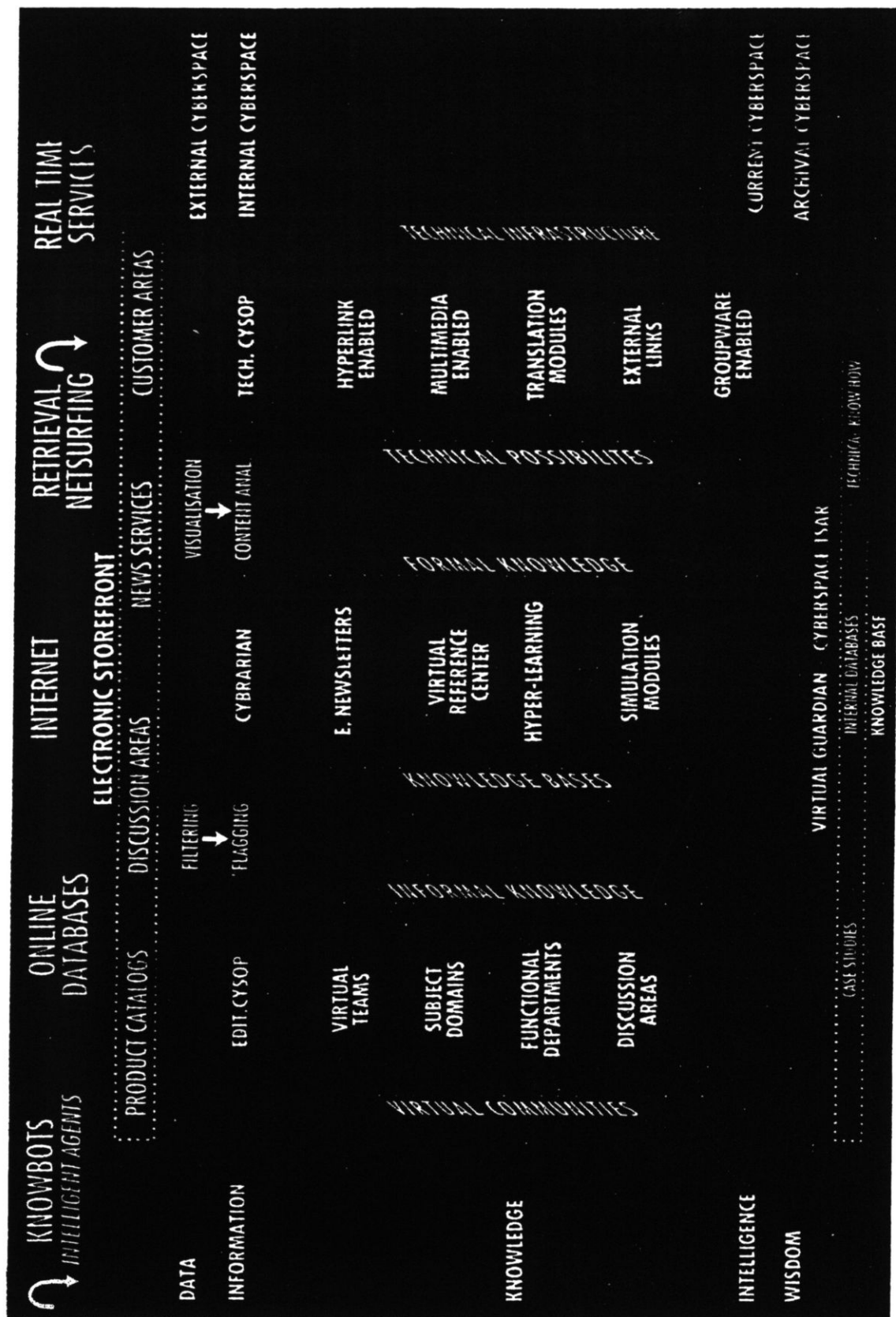
Before further elaboration, let's pause for an interlude. What are the differences between data, information, knowledge, intelligence, and wisdom?

From Data to Wisdom

It has always been very hard to define concepts like 'Information' or 'Wisdom', so rather than make any attempt to give a metaphysical definition, we will take a pragmatic approach.

As 'perceiving' individuals we are surrounded by external stimuli. Those that come to our attention, the 'atoms' of the phenomenal world, we call 'Facts'. When transcribed into symbols, these facts become 'Data', which can be processed by our minds and transmitted to others. These data could be considered a first kind of information, in a rough and unprocessed form. They tell us something about the attributes of the multitude of external stimuli, but only in a very haphazard and disorganized way.

We are of course surrounded by such data; alone they are not very helpful, but they are the raw material for obtaining our second kind of information: processed or organised data. We may call this 'Information' proper. The first task for an organisation is to obtain the necessary data, and to organise them into a meaningful structure. We relate data to one another, aggregate them, and select them from a certain point of view, i.e. a filter. But note that even though these data have been filtered according to our particular interest, the information is still 'external' to us.

We can assimilate a lot of such 'phase two' information, but still feel at square one. The reason of course is that this information has not yet been integrated into our own knowledge structure, i.e. all the conclusions we have drawn from accumulated past experiences according to our particular point of view. In other words, the information has to be digested, compared to other information, related to what we already know, critically evaluated, etc. The information has to fit in our knowledge structure, which has to adapt itself to accommodate itself to this new information. Thus the most basic unit of information is the smallest amount that actually causes our knowledge structure to change. Phase two information has thus been transformed into phase three information, i.e. 'Knowledge'. Information plus experience, equals knowledge.

Note that information is external to us, but knowledge is internal. This is a very important point. Even if an external information provider has prepared a comprehensive 'state-of-the-art' overview on a certain subject, i.e. a knowledge product from their own point of view, this remains phase two information for any other individual or organisation who has not re-worked, or digested it into their own knowledge base. Thus any outside report must be digested by in-house experts in order for it to be integrated into the organisation's knowledge base. Note also that by putting this whole process online, the attendant learning experiences are no longer confined to the specific individuals involved, but are shared across the whole company.

The point about the 'externality' of information is also important for the following reason: one cannot simply 'buy' intelligence from outside sources. Consultants can only be used effectively when there is in-house expertise able to digest the conclusions. One can of course 'buy' advice, and make a consequent good decision, but without control of the whole information food chain, there can be no 'learning'.

Knowledge is information related to past experience but of course, we need more. What we want is to link the existing knowledge to the decision-making process, i.e. the future. This actionable knowledge is what we call 'Intelligence', i.e. knowledge applied to the future.

'Wisdom' could be said to be the last processing stage. Here intelligence has fused with action. A wise person is a person who has abolished within themself the gap between what is known and what is done. Every single act flows from the whole body of their personally accumulated knowledge. The same is true for a company.

For our purpose, it is necessary to accept the perhaps questionable hypothesis that it is possible to codify this wisdom, for example in the form of case studies. In any case, when we work in a digital environment, this whole 'information food chain', this learning process, can be automatically documented. This accumulated 'wisdom' will find its proper place not only in the minds of the participants, but for later generations of employees, also in the archival cyberspace discussed above.

Phase-Specific Information	Activity	Product
Data	Gathering	Data-sheets
Information	Structuring	Newsletter; ad hoc reply
Knowledge	Integrating	State of the art report
Intelligence	Analysis	Strategy report; policy review
Wisdom	Understanding	'Wise' conduct; case studies

The External Cyberspace: the Internet

Let's look now in some detail to external cyberspace. External cyberspace consists first of all of the online databases in which we find all kinds of formalised and published knowledge. There are more than 6,000 of them (not including CD-ROMs). Unfortunately, database vendors use different search languages and formats, so the expert help of information professionals certainly remains a necessity.

Whenever we need contextual knowledge, as we said before, live human experts are needed. Fortunately, these can be efficiently contacted through electronic networks such as the Internet.

The Internet is of fundamental importance to modern corporations. It is the most comprehensive gateway to the world's knowledge. It is a network of 48,000 computer networks, uniting more than 30 million users of high educational attainment. Its population is growing at a rate of 12% per month, hence doubling in size every nine months, and is expected to unite between 200 and 500 million people before the end of the decade. It is the meeting place of expertise from the academic networks, the business world (the majority of its users), and the world of social computing. It is a medium with radically new characteristics, which combines the characteristics of the mass media (such as radio and television) with those of personal tools such as telephones, and can be used both for personal and collective communication. It is a multi-medium, as it can carry not only text, but also sound, graphics, and moving images. It is a hyper-medium, because through a technology known as hypertext, all the information available on the

Internet can be linked to each other. The invention of the World Wide Web is the fundamental answer to the challenge of the information age.

Indeed, every age has its function. If the agricultural age had to feed the population, and the industrial age had to provide material well-being through mass production, then it is the function of the information age to make available to all the cultural heritage of humankind as well as the knowledge necessary to govern the complexity of modern society. And just as the combination of machinism and Taylorism essentially solved the historic task of the industrial age (as expressed in Ford's Model T), so the combination of multi-media and hypertext is the basic solution to the information age. It needs tailoring, but the essence is already there. The World Wide Web technology is indeed being used to put the cultural heritage of humankind 'online'. Hence the formidable importance of the Internet as an information resource, where one can find the accumulated knowledge of universities, libraries, museums, associations, professional organisations; and as a consequence of the involvement of more and more companies, a gateway to commercial databases.

In effect, linking one's personal computer to the Internet makes it a supercomputer far bigger than the largest supercomputer in existence. Every processor of the 3.8 million attached host computers becomes a co-processor of our individual PC. More important still is the Internet's role as a vehicle of humanity's collective intelligence. It is in effect the first manifestation of that age-old dream, brilliantly described by H.G. Wells in his 1930s work, *World Brain.* Indeed the Internet has become the means for ongoing discussions either by the larger public, but also for the experts. Specialized mail-based discussion groups and Usenet newsgroups have become the forums where experts and researchers discuss their latest research and ideas and where they publish electronic newsletters and magazines on the latest developments in their field.

Through the fast-growing phenomena of electronic storefronts the Internet is also becoming one of the preferred means of corporations to present themselves, and their expertise, to the public. Through its interactivity, the Internet has become the ideal way of connecting to consumers, suppliers, partners, etc. In fact, referring to my comments on virtualisation above, it can be said that both individuals and organisations will have an 'electronic representative' and that those who don't have one, will not have a presence on this most important marketplace. Once the payment and security problems of the Internet are solved, and they will be in a matter of months, we can expect the Internet cyberspace to be the world's primary marketplace, which will not only serve for the distribution of electronic products (such as text and music) but also for electronic commerce. It is where the transactions take place that will determine the movement of physical goods as well.

The Internet will dramatically alter economic relationships. The dramatic reduction in coordination and communication costs, and in transaction costs, until now the preserve of large multinational companies with their private networks, will result in democratization. Now that the economy is moving from one based on the transportation of atoms to one based on the movement of bits and bytes, costs associated with distribution and marketing will be dramatically reduced. Hence, more and more economic activities which, because of economies of scale, were hereto reserved for large organisations, will move to smaller players. For all those producing knowledge, including the intellect-workers themselves, a direct line is opened to their market, without intermediaries.

Dealing with a Surplus of Information

Of course, everything has its dark side. One of the consequences of the growth of tools like the Internet is the exponential growth of the availability of information. How can one process external data into information?

Different means have been devised to deal with too much data coming in. For analyzing complex and huge amounts of numeric data, we have developed 'information visualisation' techniques, able to identify patterns. This whole process has been advanced significantly with the use of neural network technology.

For extracting meaning from huge amounts of textual data, we have to resort to trend analysis. This technique, adapted from the experience of 'best-selling' analysts like John Naisbitt, Faith Popcorn, consists of the following steps: 1) analyzing 'what we want to know' and formalising this in a knowledge grid, i.e. a conceptual map of our interests; 2) matching incoming data to this grid, and highlighting material of interest; and 3) consolidating this material into a knowledge base based on the grid. Of course, over time we will collate material that doesn't match our grid and re-adapt it.

There are also the still-valid classic information filtering techniques based on the use of keywords. The classic method used by information centres, providing such alerting services based on the use of single databases, is no longer valid. Indeed no single service can claim comprehensiveness, so a combination of services, based on their respective strengths, is necessary. We thus recommend a combination of sources, coming together in one information refinery, where they are recombined in customized newsletters: this could be called 'just-for-you publishing'. New groupware tools allow for the flagging of certain articles. In this way, individuals can express their judgment, raising the item in the hierarchy, and thereby alerting others to its importance.

Another advantage of working in an integrated electronic environment is the ability to integrate comments. In this way, we combine external information with internal assessment and with 'soft knowledge' (opinions of staff members, testimonies of customer visits, rumours). Several studies have demonstrated how management values such soft knowledge above external information. As both kinds of information have their strengths and weak-

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nesses, a combination of both is ideal.

Flagging is an example of a new set of techniques called 'social information filtering' based on the premise that if a piece of information is of interest to like-minded people then surely it will be of interest to you. For example a video store in the U.S. allows its clients to enter their choices in their database, which then compares your choices with those of other customers 'most like you'. It then presents you with the other choices of these other customers. Similar techniques will have to be adopted in organisational frameworks.

The above are examples of 'passive' information filtering techniques that aim to narrow the incoming flood to a manageable trickle. To be realistic, we should insert here a word of warning from science fiction author Tom Maddox: "Any device we invent to filter information causes more information to come into circulation than it can filter."(3) This is undoubtedly a real-life law that points to the paradox of the information age. Whereas before the right information wasn't available and lots of efforts had to be duplicated, it now sometimes seems that more time is spent digesting information than actually acting on it. This is why it is still cost-effective for corporations to have a staff of information professionals who can provide trend analysis and customised newsletters. That way, a basic package is provided, leaving the other professionals free to channel energies in other directions if they so wish.

Our chart also notes active information gathering techniques, such as information retrieval used for traditional database searches, and netsurfing, the fashionable term for actively mining the resources of the Internet. Undoubtedly, more and more end users will take on these activities themselves, leaving information professionals to perform more value-added tasks such as the management of this process, training, and mentoring. Instead of acting as intermediaries between users and information, they will act as advisors to the end users.

For the near future, we may expect the use of so-called digital intermediaries such as 'intelligent agents', knowledge robots that actively search the net and the databases based on their knowledge of the user's interest. "Interview agents will draw on a profile of the user to frame the appropriate queries, while, on the other end, collection agents will negotiate price, form, and content with databases, and mediation agents will act as a go-between." (3) If these agents are successful (and some are already operating on the Internet), they have the potential to change the information industry's way of doing business. Instead of flooding the market with marketing and advertising, they will look for your 'raised hand' and come to you with bids, based on your concrete demand. In this way, real information markets will emerge. One such experiment is AMIX, where it is possible to offer information, to ask for it, to read the comments of previous customers, and to negotiate, all in the same environment.

The Internal Cyberspace: the Forums

Internal cyberspace is essentially based on the use of forums, a flexible organisation of 'spaces' corresponding to the interests of a user population. They can be based on the activities of a company, their markets, project team activities, functional departments, etc. and can be permanent or temporary. Each forum contains a mix of formal and informal information. The formal information is the collection of basic reference materials required by the user group. So, instead of the classical physical library, the basic information is integrated into the electronic environment which functions as a virtual reference centre. As well as text and data files and directories, it should also provide the necessary gateways to the appropriate outside information resources such as databases.

The formal part of the forum should also offer access to hyperlearning modules. Indeed, learning can no longer be divorced from working, and the necessary educational materials should be available on demand ('just-in-time' learning), when needed. Ideally, the software should allow for hypertext linking, and even for hypermedia, i.e. the ability to attach supportive multimedia material. The ideal forum structure should have the following characteristics: 1) seamless interaction between real-time communication (face-to-face) and stored data; 2) seamlessness in planned (the meeting) and casual communication (the water-cooler); 3) seamless transition between various media. We are not there yet, but we're getting closer to the point when the virtual office offers the same advantages as the physical office, but without the constraints of time and space.

Instead of acting as intermediaries between users and information, they will act as advisors to the end users.

The formal part of a forum should be managed by a cybrarian, 'a librarian of cyberspace', a specialised information professional with expertise in electronic resources. The same cybrarian should also monitor the informal discussions so that they can be injected with appropriate formal material (articles pertinent to the discussion, or an internal case study that bears on the current issue). The informal part of the forum is indeed a discussion area, where issues can be aired, and questions asked. This is actually the most powerful part of the forum.

Formal directories of expertise always reflect past and 'official' knowledge. However, expertise can be anywhere, and through these forums it can be tapped. If a salesman in Singapore is suddenly faced with unexpected frost, colleagues in Canada can instantly respond to his query, and transmit their experience and recommendations. In fact, experience shows that solutions always come from unexpected places! The informal part of the forum is the real locus for the collective intelligence of the company to manifest itself: just as linking two computers exponentially augments their processing power, so a similar effect pertains to linking brains in real-time. Available creativity is developed exponentially. Such a process speeds up the process of knowledge transfer tremendously. Some companies report a reduction in response time (to problems), from two weeks previously, to two days after the introduction of the forum structure.

Obviously, such internal networks also change the company's practices, as they allow for direct horizontal communication: the network is an expressway bypassing the bureaucracy and the hierarchy. End users are empowered to find the information they need to do their job properly, whether this information is available internally or externally. Entrenched interests can impede the work-

ings of such technology, but experience has shown that networking is a Trojan Horse undermining vested interests, which liberates the creativity of new layers of staff.

Bureaucracy, an organisational and communicational pattern based on restricted flows of information and a monopoly of knowledge, cannot survive the introduction of networks. With their introduction, power moves from the bureaucracy (those who control the flow of non-sharable paper-based information) to the cyberocracy (those with the best skills to access the shared knowledge streams on the networks). Power goes to those most adept at the Wisdom Game, characterised by consensus-formation through knowledge-sharing. The existing culture, and the policy of management to deal with it, will determine whether the transition will be smooth or difficult. Practices like information hoarding have to be changed to an information sharing environment. For instance, at Buckman Laboratories, employees who do not participate in the forums, and do therefore not 'share' their knowledge, are not readily considered for pay raises and promotions. On the other hand, the top 100 forum users get preferential treatment and become the 'heroes' of the corporation. Such a carrot-and-stick approach can help the transition to the networked company and avoids the detrimental civil war between old and new organisational paradigms. This requires the support of top management levels.

Forums are more than meeting places, they create virtual communities. Indeed, sometimes 'less is more', and a limited medium such as electronic mail turns out to be a 'warm' medium which allows people to communicate in new ways. Because attributes like hierarchy, race, and gender are less visible, this stimulates new layers of staff members to participate. Online forums are 'third places' (after work and the home), neutral grounds that serve to bring guests to a condition of social equality. Such a productive atmosphere for information exchange should be fostered, hence the need for salon keepers, called 'editorial system operators' (who may or not be the same person as the cybrarian). These virtual guardians monitor the social life of the forums, guard 'netiquette' (rules of acceptable behaviour on the net), dampen the 'flamers' (those who use verbal flame-power to torch those who disagree with them), steer 'topic drift' (the tendency of discussions to veer in unproductive directions).

Notice that this is not the role of a technical system operator (sysop), but one for a social facilitator, who keeps the forum on the verge of organisation and chaos. Also, if each forum needs a combination of editorial sysop, cybrarian, and technical sysop, then the whole array of forums needs to be managed as well. This is a role for the 'cyberspace tsar' who again should not be an IT person, but an expert in knowledge transfer practices. This role is to integrate the technological support, the organisational structure, and the 'content providers' (i.e. everybody) in one seamless process. Hence the need for integrating the information and IT

departments in a new kind of Knowledge Transfer Department, as has been done in Buckman Laboratories.

Virtualisation of the Information Centre

In order for the forum structure to work properly, one should build a total electronic information environment; thus paper-based information centres should be virtualised. There is an obvious stumbling block here: 95% of the information is still paper-based (though it is actually produced digitally, it is not yet distributed digitally). What to do?

The first thing to understand is that there are degrees of virtuality, that virtualising is a process. Most information centres and corporate libraries are at stage one: electronic access to a real physical library (hence we have: a virtual library, but with a real collection and real documents); stage two virtual libraries combine electronic access with document delivery (hence we have a virtual library, with a virtual collection, but real documents are delivered); stage three virtual libraries offer electronic access to electronic documents (hence, here we have total virtualisation: virtual library, virtual collections, virtual documents).

The most realistic option today is to build a stage two virtual information centre, based on the premise that although the majority of the primary material is still paper-based, this is not the case for the secondary material (abstracting and indexing services) which is available online 95% of the time. The role of the information centre is to send pointers to the end users, and to set up a just-in-time delivery system for the primary materials that are requested. In this case, we abandon the just-in-case scenario of physical collection-building. The only materials kept in-house are those that cannot easily be obtained from the outside through document delivery. This in-house material should then be digitised in-house and made available through networks.

Existing procedures should be reviewed and routine activities without added value should be rigorously eliminated. The basic method is: 1) eliminating unnecessary procedures; 2) outsourcing those activities which can be carried out in a more cost-efficient manner by outside agents; 3) automating the remainder with the aim of integrating them into the electronic environment. The payoff of such a process is huge: by eliminating the physical infrastructure 80% of the just-in-case based budget can be saved and re-invested in the digitising project.

From that moment onwards information needs to be produced and researched only once and the motto of the virtual information centre becomes: 'act locally, benefit globally'. The political program of the virtual information centre and the Knowledge Transfer Department to which it belongs, becomes: 'one corporation, one (networked) library, one cyberspace'. One corporation means that information belongs to the whole company, not to the individual or the department; one (networked) library means that information

> *Bureaucracy, an organisational and communicational pattern based on restricted flows of information and a monopoly of knowledge, cannot survive the introduction of networks.*

> *What are the differences between data, information, knowledge, intelligence, and wisdom?*

should be made available to all, any time, any place; one cyberspace means one globally accessible forum for the exchange of knowledge.

The role of the Knowledge Transfer Department becomes the following: 1) managing the virtual information centre and the information 'food chain' discussed above, i.e. processing data into ultimately, wisdom; 2) setting up and managing the forum structure, i.e. the company's cyberspace; 3) managing the technological infrastructure that makes the whole process possible. From this point of view, the IT infrastructure is wholly subservient to the knowledge transfer and business process, not the other way around.

A company successful in implementing this process becomes present in the whole world: 'Inside networks that operate at the speed of light, no matter where you are, you are everywhere, instantaneously'. In this age of time-based competition, it will mean faster response time towards customers, faster learning cycles for the staff, and faster innovation. This is the challenge of knowledge transfer, a challenge that can only be met by the successful implementation of a cyberspace environment. ∎

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UMLS Knowledge Sources and Canada: an Overview

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Medical informatics, a multidisciplinary field that concerns itself with computing and communications technologies as they apply to the health community, is an emerging field in Canada. UMLS (Unified Medical Language System) is identified as a medical informatics standard in the literature and in online documents, such as the charter of the sci.med.informatics newsgroup (1). The methods for gathering information on the use of UMLS in Canada were literature search, Internet search, postings to distribution lists, and participation in supervision of research leading to an MSc degree.

The Coach Metathesaurus Browser is an application program which provides users with multiple views of the useful information in the UMLS Metathesaurus, and it is installed as an application in some Canadian libraries, including the library systems at Dalhousie and Memorial Universities. The Coach application was demonstrated at the CHLA conference held in St. John's, Newfoundland. In the United States, Donald A. B. Lindberg, MD, Director, NLM, was named the first Director of the National Coordination Office for High Performance Computing and Communications and some new UMLS-based initiatives have emerged (2). For example, the Internet Grateful Med Team posted a request for beta testers for their system to bit.listserv.pacs-l newsgroup on June 30, 1995. Internet Grateful Med can map user terms through the UMLS Metathesaurus to help users create, submit and refine a search in MEDLINE.

Background

The UMLS project was initiated in 1986, and the first experimental edition of the UMLS Knowledge Sources was made available in 1990. I participated in the development of a proposal for use of a controlled vocabulary mechanism based on UMLS to support medical education applications, and presented this at the first UMLS Users Group meeting held at the 1991 Symposium on Computer Applications in Medical Care (SCAMC). The 6th Edition was shipped in June 1995 to over 400 institutions worldwide.

The chief investigators for the initial UMLS contracts included: Dr. Robert Greenes, Brigham and Women's Hospital; Dr. James J. Cimino, Columbia University; Dr. G. Octo Barnett, Massachusetts General Hospital; Dr. Randolph Miller, University of Pittsburgh; Dr. Perry Miller, Yale School of Medicine; Dr. Homer Warner, University of Utah and Dr. Mark Tuttle, Lexical Technology, Inc. (3)

UMLS Project Goal and Objectives

The goal is to make it easy for health professionals and researchers to retrieve and integrate relevant information from disparate machine-readable sources, for example, to use terms in one machine-readable source, e.g. patient record, as input to another system, e.g. expert system, MEDLINE. The UMLS Knowledge Sources can also assist in indexing applications and identifying which of many existing databases have information relevant to a query. The barriers to access to machine-readable biomedical information include the number of different ways the same concepts are expressed by users and in different controlled vocabularies, classifications, and databases.

During the period from 1986-1990, the project objectives were research-oriented and the outcome was the initial versions of the UMLS components. The project objectives from 1990 forward have been based on development of applications (3).

The UMLS Knowledge Sources

The UMLS approach to achieving its goal is to develop "Knowledge Sources" that can be used by a variety of application programs. There are four knowledge sources. The Metathesaurus (Meta95) is an electronic Rosetta stone composed of concepts and terms from multiple vocabularies and classifications. The Semantic Network is a navigational aid that contains information about the types or categories of terms in the Metathesaurus and the permissible relationships among these types. The Information Sources Map is a directory that contains both human-readable and machine-"processable" information about the scope, location, vocabulary, syntax rules, and access conditions of biomedical databases of all kinds. The Lexicon is a morphology tool.

UMLS Application Programs

The applications that accompany the UMLS Knowledge Sources include:
a) MetaCard, Macintosh HyperCard interface to Meta95
b) Semantic Network Browser, Macintosh graphical array of semantic types as nodes and relationships as lines joining nodes Semantic Network
c) Coach Metathesaurus Browser, PC interface to Meta95 which provides users with multiple views of the information in Meta95.
d) Lexical Programs, Unix interface to SPECIALIST Lexicon.

Scope and Contents of the UMLS Knowledge Sources

1. Metathesaurus (Meta95)

The 1995 version, Meta95, contains 478,000 names for 223,000 concepts in 31 biomedical vocabularies or thesauri. New content

includes the Snomed International Topography Axis and Function Axis; all DXplain diseases and findings; WHOART; the PsycInfo Thesaurus; DSM-IV; and the Omaha System for Nursing (4).

2. The Semantic Network

This provides a consistent categorization of all concepts. There are 133 Semantic Types, and each concept in Meta95 is assigned one or more semantic types. The primary relation is the "isa" link, and several portions of the MeSH hierarchy have been labeled with child to parent semantic relationships. One additional relation is used for this labelling: "equivalent_to". There are 49 non-hierarchical relations (4).

3. Information Sources Map

This draws upon the capabilities of Meta95 and the Semantic Network to describe the scope and content of electronically available information sources. This knowledge source employs network-based open standards, such as the Uniform Resource Locator (URL) and access information for a resource.

4. SPECIALIST Lexicon

This was developed to provide lexical information needed for the SPECIALIST Natural Language Processing System and uses a frame structure.

Canadian Activities using UMLS

Mechanisms for funding medical informatics research and development activities in Canada are just emerging (5), and some of the projects reviewed have not gone beyond the development of a prototype due to this lack of funding. NLM/NIH contracts that are specifically for UMLS research are restricted to U.S. citizens. There have been joint research projects between U.S. and Canadian partners that were funded. There are also efforts, such as use of UMLS for adverse reaction reports in Laboratory Centre for Disease Control, Ottawa, that were awaiting inclusion of WHOART in Meta95. Following are examples of projects that have been published or presented by Canadians:

1. MD Concept (University of Montreal)

MD Concept is a proposed knowledge model "based on a semantic network and uses an object-oriented paradigm and relational tables" (6). The prototype system integrates UMLS with other databases including the SNOMED II, DSM-IIIR, and a pharmaceutical database, and demonstrates how a user can easily navigate in this knowledge world using a browser.

2. Classification Research and Curriculum Indexing (Dalhousie University)

Dr. Dan Masys, Director, Lister Hill Center, NLM, was the keynote speaker at the Managing the Curriculum with Information Technology Symposium, Chapel Hill, North Carolina 1990 meeting, and the decision reached at that symposium was to investigate use of UMLS as an indexing vocabulary for the curriculum. A proposal to evaluate the UMLS as a controlled vocabulary for medical education was drafted at the 1991 AAMC Working Group

on Curriculum Database Development meeting and presented at the 1991 UMLS Users Group meeting (7). This proposal was submitted to AAMC and formed part of an unsuccessful submission for NLM funding support.

Jemal Abawajy used over 1300 summary records of Dalhousie's 1989-1990 traditional curriculum as a source database for his MSc Computing Science thesis. He used the Metathesaurus as an indexing language, and completed original research in the use of an object-oriented data model as the interface between a relational database and the UMLS Knowledge Sources. His work was presented at local and international classification research conferences (8), and described in lay language for a magazine distributed to Canadian physicians (9).

The mapping of the case-oriented problem-stimulated (COPS) curriculum content to the Meta95 is currently being planned and is expected to assist greatly non-expert tutors in determining all the ways a concept is introduced (10).

3. Electronic Patient Record (BC)

George Zizka, Vancouver, was a consultant for a US-based multimedia and electronic publisher, and developed a prototype portable patient record system based on the ASTM 1384-91 standard, a standard description for content and structure of the computer-based patient record, that was demonstrated at the 1995 HIMMS Conference in San Antonio, Texas. In the initial stages of developing a related prototype for the piping of data between systems built using different database management systems, he drew up guidelines for the design of a knowledge based component utilizing the UMLS tools. This component would interface with a component server which was to utilize the Z39.50 NISO/ANSI standard to connect to remote databases such as MEDLARS. He proposes use of WWW pages for dissemination of information on UMLS so that Canadians are made more aware of this tool (11).

Robert Carruthers, MD, Nanaimo, BC, runs the Informatics-BC listserv, which is a discussion group on the health information vision for BC. He has applied for a UMLS licencing agreement and regularly discusses the coded computerized medical record with Dr. Randy Giffen, Middleton, NS.

4. Automated Approach to Indexing and Retrieving Medical Literature (McMaster University)

Dr. Brian Haynes and Ann McKibbon, McMaster, participated in a research study evaluating SAPHIRE, developed by Dr. William Hersh et al of Oregon Health Sciences University (12). Cliniweb, a web site from Oregon Health Sciences University with uniform resource locator, http://www.ohsu.edu/cliniweb/, evolved from work on SAPHIRE and allows users to browse Internet sites by traversing MeSH tree structure or by searching with a term which is then converted to MeSH for retrieval purposes.

5. SNOMED and UMLS (University of Sherbrooke)

Drs. Lussier and Cote are actively involved in the development of a standardized nomenclature for medicine (13), and review of the cross referencing strategies that have been developed for UMLS. SNOMED International is one of the source vocabularies of UMLS Metathesaurus, and Dr. Cote has been active in the development of SNOMED since its inception (14).

Medical Informatics and Medical Education

The UMLS is a key enabling step toward a future where information is more or less ubiquitously available at the health professional's fingertips from systems that "understand meaning", as opposed to vocabulary (15). The areas in Dalhousie's medical informatics curriculum that have been designed to address the needs of future physicians include: computer literacy, communications, information retrieval and management, computer-aided learning, patient management, office practice management, hospital information systems, and consumer health information (16).

Future Directions

Publications, such as the Canadian Medical Informatics Magazine, and conferences, such as MEDINFO'95 organized by the Canadian Organization for the Advancement of Computers in Health (COACH), provide a platform for Canadians to promote their activities in all areas of medical informatics, including use of UMLS in a myriad of ways. Electronic communication is making it easier to share information through the Internet. World Wide Web pages are developed by governments, institutions, and individuals, and make it easier to share information. Visit the World Wide Web pages at http://www.nlm.nih.gov for fact sheets and documentation on how you can participate in this medical informatics project.

Acknowledgment

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Brave New World: Establishing Family Resource Libraries in Medical Settings

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In the brave new world of health care, patients and their families are expected to be active partners and are frequently called upon to take responsibility for part of the treatment process. As a result of this partnership, there has been a dramatic increase in the demand for information about medical conditions and treatments by patients and their families. In response to this growing demand, many hospitals are creating family resource libraries.

Planning

Usually, the first step in the creation of a family resource library is the formation of a planning committee. This committee is responsible for writing a proposal which describes the proposed service in terms of the need for consumer health information and the expected contribution to patient care. This description is based on the results of a literature search and a needs assessment.

Many needs assessment surveys fall short of their potential because they are not administered to a broad enough base of people. Too often surveys are given only to patients or nursing staff. All groups who have direct patient responsibilities should be surveyed--this includes volunteers, families, public health nurses, and community support groups. As well, any department or organization that has goals similar or related to the those of the proposed service should be included. For example, patient education departments, information services, and local libraries will be the natural allies and competitors for the service, so collaboration with these groups should begin early.

Information gathered during the needs assessment survey can be incorporated into a situational audit. A situational audit identifies the positive and negative factors that influence the availability and accessibility of patient health information. It is used to assess whether or not the proposed service addresses a real need, fits the institution's goals, has the potential to significantly improve patient care, and is technologically feasible. A "WOTS" UP or "SWOT" format (strengths, weaknesses, opportunities and threats) can be employed (1). For example:

Strengths:
- The IWK Children's Hospital was already considered a source of child health information by the public.
- There was a hospital staff library and a university medical library nearby.

Weaknesses:
- There was no coordinated way of dealing with patient information requests. Requests from outside were handled by the public relations department.
- The public library's coverage of "wellness" topics was good, but limited in terms of specific medical conditions or treatments.
- Families had to leave the hospital in order to access information at the public or university library.

Threats:
- Hospital staff did not have the resources to take on additional roles.
- Continued reductions in government funding did not leave money or manpower for new projects/services.

Opportunities:
- The IWK was moving toward a more family centred service and was looking for ways to improve support to families.
- The hospital's Auxiliary had expressed an interest in developing a patient library after hearing about a similar project in Toronto.

An issue which should be addressed in the proposal is where the library will fit in the organizational structure. Its organizational fit is, in part, determined by the type of information service you intend to provide. There are two basic models. The first, a patient education model, seeks to influence or modify the patient's behaviour. This type of service often falls under the purview of the nursing dept. The second, a consumer health information (CHI) model, is like the public library service in that it provides information without opinion, interpretation, or influence.

The service model chosen will have a bearing on library policies. For example, hospitals are extremely sensitive about confidentiality and safeguarding patient information. However, confidentiality does allow for the sharing of information by people caring for the patient. Some staff may interpret this to mean that staff should have access to information about materials the patient has obtained from the library. If the library is part of the patient education department, this request may not seem unreasonable. On the other hand, with a CHI service, such a disclosure might be considered a breach of patron privacy. No matter which model your organization chooses, it is advisable to formally work out the

relationship between the hospital's patient education program and the new service to avoid any confusion.

Traditionally libraries have relied on committees, such as a Board of Trustees, for advice and direction on policy matters. The more diverse the advisory committee, the more likely you will be able to create a service that meets the needs of patients. When choosing committee members consider their suitability in terms of three criteria: library or consumer information expertise, power to influence people who have control over resources, and knowledge about the concerns and needs of patients and families.

Advisory committee members serve as a communication conduit. They convey to the librarian the views and suggestions of key groups, and their presence on the committee can help to alleviate the concerns of staff by involving them in the development of the service. It is important to educate committee members about how a library operates, why things are set up the way they are, and to keep members of the committee informed about developments in the library.

Public relations

It is essential to promote a resource library for patients and family members within the health care setting. Patients, family members, medical staff, and your community need to be aware of the library's existence, so that potential library patrons are referred to it and resources are well used.

When the Cancer Resource Library for Patients and Families was being developed at the Nova Scotia Cancer Centre, the librarian gave a presentation to staff members. The goals and objectives of the library were outlined, as well as the types of materials that would be collected. A team approach was emphasised in the development of the library, and staff were encouraged to recommend and review library materials.

Location of the library is of key importance. Ideally, it should be in a high-profile area, easily accessible to patrons. The Family Resource Library at the IWK is located in the main lobby of the hospital. If the library is not in a central area, then good sign-posting is essential. There should also be adequate signage within the library so that patrons can find materials easily (2).

Prior to promoting the library, it is a good idea to develop a distinctive logo that can appear on the main sign for the library and on stationery and business cards (3). This gives the library a professional image, makes it easily identifiable and emphasises its importance within the institution to staff.

All promotional materials should look professional, be clearly printed and produced in colours that will be eye-catching and distinctive. The colour scheme for the Cancer Resource Library was pink, grey and burgundy, and these colours were used for all of the promotional materials about the library. Several students in a marketing course at the School of Library and Information Studies at Dalhousie University worked on a project for the Family Resource Librarian at the IWK to create a pamphlet, poster and press releases for the library.

It is important to educate committee members about how a library operates, why things are set up the way they are, and to keep members of the committee informed about developments in the library.

Once the library is open, its services can be promoted through open houses, distribution of brochures, demonstrations of CD-ROM products etc. Issuing personal invitations to open houses can help to increase the attendance rate (4). Hosting a grand opening ceremony can also put the spotlight on the library. For example, the Cancer Resource Library was opened by the Provincial Minister of Health and received a fair amount of media attention.

The main focus of the library must be on serving the needs of library patrons, and ensuring that these requirements are met as quickly as possible. If patrons are unable to come to the library, then library materials must be brought to them. In hospital settings, this entails developing book trucks that can be taken to the wards.

If the library is open to members of the public, it should be promoted within the local community. This can be achieved through networking and presentations to community organisations. For example, a presentation about the Cancer Resource Library was given to members of a support group run by the Canadian Cancer Society. Networking with community organisations not only promotes the library, but may provide opportunities to acquire materials and to receive recommendations for other items. Through attendance at a teleconference about family resource libraries in Canada, the librarian for the Cancer Resource Library was able to make contact with other libraries in similar settings and obtain print-outs of some collection holdings. These proved to be very useful for developing the collection at the Cancer Resource Library.

Within the health care setting, it is worthwhile to attend staff meetings and seminars, and to read organisational memos and newsletters. These often reflect key issues within organizations, and familiarity with their contents can help the librarian to ensure that the library is adequately meeting the needs of patrons and the institution. A column about the library in an organisational newsletter can draw attention to new materials, highlight library services, and introduce new volunteers, etc.(5) If e-mail is available within an institution, lists of recent library acquisitions can easily be circulated to staff members.

Brochures about the library can be left in waiting areas in the institution and in local public library branches. Contacts can be developed with local newspapers and news items submitted. For example, an article appeared in the "Clipboard Newsletter for the N.S. Association of Health Organizations" about the Cancer Resource Library.

The library should be included in orientation procedures for new staff members in the institution, and the librarian should also be prepared to provide tours to visitors (6).

Bulletin boards are very useful tools for promoting library services, events within the health care setting, and community events. These should be strategically located to catch patrons' eyes, such as at the entrance to the library. The Family Resource Library at the IWK has a second bulletin board located next to one of the main elevators on the ground floor of the hospital.

It is also important for the librarian to promote his/her own professional activities, and to keep staff members aware of courses taken, attendance at conferences, papers published etc. This en-

hances the professional image of the librarian and also reflects well upon the organization (7).

Promotion of the library and its services may also help to attract volunteers.

Volunteers

The recruiting and training of volunteers is an important aspect of work in a family resource library. Prior to taking on any volunteers, it is essential to develop a policy and procedure manual for the library, and to have well-defined job descriptions.

Volunteers can be recruited from a variety of sources. Many organizations have volunteer coordinators who can help to locate appropriate volunteers and assist with interviewing and orientation. If there is no volunteer coordinator, the Personnel Department for the institution may be able to provide some assistance. Volunteers can also be recruited through networking with community resources, for example, volunteer bureaus such as the Volunteer Resource Centre in Halifax, Nova Scotia. Students can be recruited from local schools and universities. Two students from the School of Library and Information Studies at Dalhousie University volunteered for the Cancer Resource Library for Patients and Families. They gained valuable work experience, and the library acquired volunteers knowledgeable about cataloguing and reference work. In Windsor, Ontario, the Teen Health Centre Library attracts additional volunteers by participating in an annual Volunteer Fair held at the University of Windsor. Senior citizens' groups and church groups are other potential recruiting areas. Applying for government grants may enable the library to offer paid employment.

The interviewing procedure for volunteers needs to be carefully planned. The librarian should obtain background information from candidates, find out about special abilities and experiences, and then try to match these to specific library tasks. For example, one of the volunteers at the Cancer Resource Library was a secretary prior to retirement, and she provided invaluable assistance with various clerical tasks in the library. In a medical setting, volunteers must be able to listen well, be sensitive, tactful and discreet. The importance of confidentiality must be stressed and instructions given on how to provide information only and NOT advice. Volunteers also need to be trained to handle complaints and to work with patrons who may be in distress (8).

Volunteers require clearly defined responsibilities, ongoing guidance and evaluation (9). They also need to be recognized for the work that they do. This can be achieved through certificates, pins, articles in organizational newsletters etc. The Family Resource Library at the IWK has a large poster with photographs of all the volunteers, thanking them for their work.

> *Networking with community organizations not only promotes the library, but may provide opportunities to acquire materials and to receive recommendations for other items.*

> *The satisfaction of both those who deliver and those who receive service is important to the success of the library.*

The librarian has also developed a training programme for her volunteers. Over an eight session period they are oriented to the hospital and the library through the use of videotapes, computer training, and completion of written exercises, including practice reference questions. Volunteers also need to be evaluated on an ongoing basis. This can be achieved through observation of trained volunteers, follow-up interviews, questionnaires, checklists, and other methods (10).

A weekly journal for volunteers can be a useful tool to alert volunteers to changes in library policies and procedure, to provide continuing education materials, and to serve as a source of encouragement and positive feedback. Regular meetings with volunteers will enable the librarian to keep abreast of any concerns and to provide updates and encouragement.

Evaluation

The satisfaction of both those who deliver and those who receive service is important to the success of the library. For this reason, every library needs some method of assessing whether the service is meeting its goals and the customer's expectations. Quality monitoring programs establish performance baselines, identify areas for improving service, and monitor changes after implementation of recommendations (12). The best time to set up a quality monitoring system is when you are designing the service. Quality is measured in a variety of ways including suggestion logs, customer satisfaction surveys, needs assessments, and standards.

External and internal service standards are 'red flag' systems, tools to help identify areas where improvements can be made. External standards are used to compare different libraries. Benchmarks and the CHLA/ABSC Standards for Library and Information Services are examples of external standards. Internal standards are set by each library and are used to determine whether or not the library is maintaining the desired level of service. Internal standards can be ambitious, but they should be realistic. Standards should take into consideration your workload and available resources. If there is a shortage of staff or if the library relies on materials obtained via interlibrary loan, then a standard that states that all information requests will be processed in 24 hours may not be worth the paper it is written on.

Each library must make a continuous effort to improve its effectiveness and quality of service. The needs assessment and strategic plan should be updated every three to five years - sooner if your hospital undergoes any major changes. In the face of increasing competition for support and funding, it is important to demonstrate that the library is run efficiently, supports the needs of patients and their families, and meets the expectations of users. If discrepancy can be shown between the library's goals and what can realistically be achieved, then there may be grounds to lobby for more resources.

Conclusion

There are many issues to be considered when creating a family resource library. However, each library is unique and should ultimately reflect the needs of its own patrons, institution, and community. ∎

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Authors

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Sharon Munro was a social worker prior to becoming a librarian. She has since worked in a variety of library settings and was responsible for organising the Cancer Resource Library for Patients and Families at the Nova Scotia Cancer Centre in Halifax.

Alberta-British Columbia DOCLINE Pilot Project - Part I

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In the spring of 1995, the British Columbia DOCLINE Users Group (BCDUG) met and discussed the impending participation of Alberta health libraries in the DOCLINE system. The difficulties of starting with an unknown computer system, the radical changes to ILL practices and other aspects of DOCLINE's impact on BC libraries were discussed.

It was decided that the BCDUG would, in the spirit of collegiality and in the interests of encouraging the use of DOCLINE, offer Alberta the same reduced ILL rates we shared amongst ourselves. It was hoped that our practice of charging each other only $3 per ILL would help Alberta libraries realise more of the possibilities of DOCLINE and recognise that distance was less of a barrier than previously thought. The proposal does allow higher priority "special arrangements" between libraries before the 4 cells of the DOCLINE automatic routing table set by the proposal. Since there are 9 cells in the routing table, room is available after as well for other libraries, which would receive ILLs via DOCLINE only if pilot libraries do not hold an item requested.

BC's limited experience within BC and with US libraries has shown that distance, including an international border, has not increased turnaround time. The general experience has been that most ILLs come faster than before DOCLINE. For example, mail within Vancouver seems to be not much faster than mail from Montana.

The proposal was derived from our own trial in BC, which in turn derived from suggestions from Nancy Press, the Resource Sharing Coordinator of the National Network of Libraries of Medicine Pacific Northwest Center in Seattle. Nancy's support and knowledge were crucial to the successful introduction of DOCLINE in BC. Subsequently, fairly recently, exactly the arrangements for routing table cells proposed for the pilot have been agreed upon as the standard in the Pacific Northwest Region (Alaska, BC, Alberta, Washington, Oregon, Montana, Idaho). These arrangements have not been proven as the best, since they have not been implemented anywhere for an extended period, but they have worked well in BC since 1993.

Representatives from NAHLA (Northern Alberta Health Libraries Association) and SAHLA (Southern Alberta Health Libraries Association) were sought. Gail Moores (NAHLA) and Kim Polvi (SAHLA) agreed to represent their organisations.

The offer was first made informally, but it was soon realized that something should be put on "paper". Accordingly, a formal proposal was sent to the two groups via e-mail. Most small Alberta health libraries wished to join the pilot project, but the large university libraries declined, as was expected.

Formal evaluation has always been intended. The text and results of this evaluation will appear in a future issue of BMC. What follows is the text of the original proposal written by Jim Henderson, with one amendment. Originally, the trial was set to start September 1, 1995. Due to technical difficulties, many Alberta libraries were not on DOCLINE at that time, so the trial start date was pushed back to January 1, 1996. It will end on December 31, 1996.

DOCLINE into Alberta: a proposal for a pilot extending to Alberta DOCLINE reciprocal arrangements between smaller BC health science libraries

Proposed by: BC DOCLINE Users Group

Proposed to: Alberta DOCLINE participants via Gail Moores and Kim Polvi (official NAHLA and SAHLA DOCLINE coordinators). It is assumed that the university libraries are not interested in participating in this pilot, but such a possibility is not precluded by this proposal.

Purpose

Arrangements between smaller health science libraries sharing resources expedited by DOCLINE have been working well since DOCLINE was introduced into BC in May 1993. This proposal to smaller Alberta libraries is designed to:

1. extend the pool of less expensive libraries to which BC and Alberta libraries can send interlibrary loans;
2. determine if and how mailing times and other operational factors make sharing across provincial borders difficult;
3. open channels to share with Alberta the expertise of smaller BC libraries using DOCLINE;
4. determine if existing resource sharing arrangements within and between provinces can be satisfactorily integrated with new arrangements using DOCLINE;
5. begin to share health library resources between provinces in the hope of developing lasting, mutually beneficial arrangements.

In BC, smaller health science libraries means all health science libraries except The University of British Columbia (UBC) Library, including its hospital branches. There are a number of such BC libraries which are not using DOCLINE.

Length and Starting Date of the Pilot

A year is proposed to allow Alberta libraries to learn how to use DOCLINE effectively and to have a significant length of time to evaluate the routine rather than the start-up use of DOCLINE resource sharing. The starting date should be mutually agreed upon, dependent on the completion of routing tables and the receipt of DOCLINE accounts and passwords by Alberta libraries and on the addition of Alberta libraries to the routing tables of BC libraries. A goal of January 1, 1996 would seem realistic, given the staff changes at CISTI. Joining part way through the pilot is fine (don't want to discourage anyone).

Arrangements

Interlibrary loans will be shared on the same basis with Alberta libraries as with BC libraries.

No restrictions will be placed on how routing tables are set up. For example, if Alberta libraries wish to place university libraries in a cell higher than pilot participants, that is fine. (This arrangement is the de facto standard for BC libraries requesting items, especially for doctors, from UBC. Many libraries run these requests through the BC DOCLINE Users Group routing table cells, and, if no library has the required item, the request is prefixed to the BC Health Association or the Medical Library Service for pick-up from UBC.)

The preferred (but not required) routing cell arrangement will be designed to give smaller libraries the opportunity to share their resources and reduce the workload for less profitable ILLs for larger libraries:

Cell 1: (or first cell after special arrangements): libraries with fewer than 100 journal titles
Cell 2: libraries with 100 to 200 journal titles
Cell 3: libraries with 200 to 300 journal titles
Cell 4: libraries with more than 300 journal titles

Charges will be levied at a rate of $3 per net ILL. That is, if you loan 17 and receive 27 from another library, you will pay the other library (27-17) times $3 = $30 at the end of the pilot. Within BC, small bills are being cancelled.

Each organisation involved (BC DOCLINE Users Group, NAHLA, SAHLA) will designate a pilot contact person. This individual will be responsible for interacting with the other contacts, in particular, the contacts shall:

1. as soon as the list of participants is established, send a list of LIBID, SERHOLD codes, and number of journal titles held by each library in their organisation participating in the pilot to the other contacts;

2. distribute information and questionnaires to libraries in the organization they represent. In the BC DOCLINE Users Group, each member of a Working Committee is responsible for forwarding on minutes, meeting notices, and other communications to a designated, small number of libraries.

Evaluation

Evaluation will consist of a short questionnaire sent to all participants asking such questions as:

1. Did your ILL workload change during the pilot period? If so, how?
2. What was the average turnaround time for requests requested via DOCLINE from within your own province and from the other province?
3. Were turnaround times, charging, and other arrangements satisfactory? What would have made the pilot/DOCLINE interprovincial resource sharing better?
4. Do you want to continue to share resources with the other province?
5. For BC libraries: How did access to Alberta libraries change the number of ILLs filled less expensively? change the number of ILLs you received?

Commentary

Alberta libraries were invited to participate in the initial Canadian DOCLINE pilot. Because of change in Alberta hospitals and, in Edmonton, in hospital library consortium arrangements, and because of differing existing resource sharing arrangements, Alberta libraries did not participate. As an example of differences in these arrangements, the university libraries in Alberta provide ILLs to health libraries at a reduced rate while, in BC, most use of the UBC Library is indirect via the Medical Library Service or the BC Health Association Library.

One reason Alberta did not join DOCLINE is perhaps the lack of a coordinating body. By making this proposal, the BC DOCLINE Users Group hopes that the structure, albeit informal (no membership fees, no real executive), of this organization will help provide some shape to the resource sharing arrangements developing as a result of the introduction of DOCLINE.

As well, BC libraries are interested in extending the pool of libraries to which they have less expensive access. It is hoped that Alberta libraries will find this arrangement mutually beneficial.

UBC did not participate in the smaller libraries' arrangements because of the necessity of full cost recovery of ILL costs. The relationship between smaller and university libraries in Alberta is different and may require some adjustments. ∎

Reviews and Resources

Book Reviews

Developing a Consumer Health Information Service: a Practical Guide by Susan Murray.
Toronto: Consumer Health Information Service, 1995. 105p. $89.95 ISBN 0-88773-046-9.

Consumer participation is evident in healthcare reform agendas across the country. Public demand for medical information is on the rise. The emphasis is on consumers educating themselves about prevention and management of illness. Therefore, this book is very timely and is an excellent step-by-step manual for anyone who is considering the development of a consumer health information service.

The intent of the book is, as Susan notes in the forward, "... to share the practical experience of the Consumer Health Information Service (CHIS) with others who wish to develop a consumer health information service." Although the manual is based on CHIS experiences, the content is generic in many chapters. The general principles make it useful for anyone (not limited to librarians) involved in consumer health information service, regardless of the model chosen.

The book reads like an A-Z guide to consumer health information service. It covers all aspects, from "setting the stage" to "evaluation." The processes are outlined in a logical fashion, drawing on CHIS experiences whenever appropriate. I found the sections on "problems encountered by libraries" and "marketing strategy" to be especially informative and thought-provoking. Most of the examples and sources used are Canadian and there is an extensive bibliography.

One of the best features of this manual is style and presentation. It is extremely user friendly. The practice of plain language is evident. All chapters have tabs, so this can be used as a desk-top quick reference tool. There are numerous special printing features such as the use of highlighting, bullets, blocking, shading and boxing (tip boxes can be found throughout the manual). These certainly enhance the usefulness of the manual.

The appendices are devoted to CHIS materials--documentation relating to the development, implementation and management of CHIS. It is fascinating reading as it gives a good overview of the achievements of CHIS.

I have one minor suggestion for improvement. I found the binding of the manual to be very tight. Since it will be a well-thumbed item, the narrow cerlox binding will not be very durable. If there is going to be a revised edition, I would suggest a ring-binder format.

I recommend this book whole-heartedly. It is more than a how-to manual. It is also a success story of the CHIS. It is an inspiration to those of us who are trying to develop a consumer health information service. ∎

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An Internet Guide for the Health Professional by Michael Hogarth and David Hutchinson, 1996.
2nd Ed., California: Self Published. ($27.00 US from UC Davis Bookstore, 2601 Stockton Blvd., Sacramento, CA 95817; Ph: 916-734-2386, Fax: 916-739-6978; e-mail bakusaka@ucdavis.edu). Note: 1st Edition available at http://www.midtown.net/~medguide

Introduction

If you are having difficulty providing justification for Internet in your Library, then I recommend this book as a useful piece of ammunition in the fight! The enthusiastic tone, combined with real life examples in which the Internet has provided information directly related to patient care will be very useful in getting others to see the value of having Internet access throughout your organisation. This book has been written by health professionals for health professionals and aims to provide practical information on how to get connected and how to get to useful Internet resources. The authors are Mike Hogarth, a physician and David Hutchinson, a nurse.

Overview

The book begins with a testimonial from Hutchinson on how the Internet has helped him as a pediatric nurse. He relates how the CancerNet site provided patient handouts on pediatric cancers, noting the time that this information saved him, and includes other episodes where the Internet was a useful tool for gathering information efficiently and quickly. We then move on to *The Future is Now*, the first chapter which explains how the Internet has and will impact on information-gathering in years to come. This is followed very briefly by a chapter entitled *So What is It?* which reviews the origins of the Internet and touches on its future.

The chapter entitled *The Internet and Medicine* provides a number of examples on the resources currently available in the medical/health field. This chapter as well as Chapter 7 provides information on some specific utilisation of the Internet for patient care. As does Chapter 9 which provides a glimpse of the authors' favourite sites including the American Medical Association, Center for Disease Control, Medical Matrix, Martindale's Home Health Guide to name a few. Excellent screen examples are provided for these favourite sites and are also used to illustrate other chapters discussing medical resources currently on the Internet.

Chapter 4 aims to provide information on *Getting Online* and offers the readers information on how to get started. We then move onto chapters on *E-mail* and the *World Wide Web*. Following this is a chapter on *Ethics, Security, and Confidentiality* which includes excellent advice such as "if you don't think your message could be shared with the rest of the world, then use the telephone". The authors also clearly point out that with the Internet medium, just about anyone can put information on a web site so it is important to know about the organisation's authenticity before using this information for patient care.

Next, the authors provide a wonderful list of World Wide Web sites organised by subject, followed by a few pages of health related mailing lists. The Appendices are useful, they include a chapter on *How the Internet Works* for more detailed information on the intricacies on the Internet, and a chapter on *Odds and Ends* which includes brief descriptions on FTP, Telnet, Gopher, Veronica and WAIS. They then go on to describe *Internet Software,* followed by *Basic Computers.* A glossary and index are also provided. All in all this book covers a huge amount of information in a simple, easy-to-read manner.

Minor Criticisms

The authors cover a complex topic in a straightforward, "this is what you need to know" manner. While I found this book full of good information, at times it didn't provide all of the information that could be useful, and some confusion and/or falsely high expectations may be created as a result. For example, they mention on several occasions that the information is available in seconds. In an ideal world, this is true but this is not the case for many of us and won't be the case for all health care professionals who need information (in some cases) in seconds. The authors also state that "anyone with a reliable telephone communication and a laptop computer is able to access all of the clinical resources on the Internet" but fail to mention that a SLIP/PPP or direct connection is essential to access graphical World Wide Web resources. This may have been something to include in the *Getting Online* chapter.

Although mentioned briefly in an Appendix in later chapters, the authors don't emphasise the importance of modem speed or computer configuration in the rate of data transmission. These factors will all play a factor in the speed at which the information flows and so could have been emphasised a bit more. Along the same line, they state "rapid, worldwide electronic access to full text Medline journals (including some well known peer reviewed publications) have made their way to the Internet. Examples include BMJ, JAMA and all the archives..". When I checked the AMA sites (for JAMA and the Archive journals), the abstracts and table of contents are available but not the full text. Be prepared for questions asking, "why are you still subscribing if these are available on the Internet?"! The other thing not mentioned is the fact that many journals are *not* yet on the Internet and of course, will never be available free of charge because of the need on the part of the publisher to make a profit or at least break even.

Other Favourable Comments

While some gaps were noted, this up-to-date book is written in a way that cuts through the theory, and generally gets straight to what the reader needs to know. An example of this is the section on e-mail. Instead of going into great detail on how e-mail works or the breakdown of an e-mail address, the authors stress the importance of writing the e-mail address correctly - a useful piece of information for those who just want the how-to of sending mail. This book is written for health professionals, not librarians who may want more detail into the intricacies of why and how things work. It's simple, and uncomplicated in its explanations.

The Medical Resource List is superb. Although there are online guides to resources on the Web, it is great to have a printed version to refer to (ironic as that sounds, it is true!). I found I was able to utilise it right away for reference questions. This list makes this book very useful.

Summary and Recommendations

This is an excellent book to have on hand for your health care professionals. Keep in mind, however, that there may be some areas where you, as a librarian, may cringe (i.e all those full-text journals on the Internet) and may need to explain to your users that it takes more than just a modem and any computer to connect to all of the resources on the Internet. But even with these deficits, this is a comprehensive, well-done book which will be a useful tool for getting your health professionals started with the Internet and excited about its possibilities and uses. ∎

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Web Resources

WCH Women's Health Directory on the Web
Shahida Rashid

Medical Library, Women's College Hospital
76 Grenville Street, Toronto ON M5S 1B2
Internet: rashids@vax.library.utoronto.ca

In June 1995 Women's College Hospital made its first appearance on the Internet with the birth of the Women's Health Electronic Directory. The directory was created to fulfil a key academic objective of the Women's College Hospital.

The *Women's Health Directory* is an electronic network for academic and community workers specialising, or interested, in women's health issues. The *Directory* identifies people across Canada who are involved in teaching and researching aspects of women's health issues, as well as service providers. The *Directory* can be searched by name, subject specialty and keywords. It is written in hypertext mark-up language (HTML) and in future will be connected to other women's health resources on the Web.

Backed by my programming experience, I volunteered to become involved in this project. I learned HTML and bought Microsoft Word for my computer. Netscape, Winsock and TCP/IP were available as part of my Internet account through Women's

College Hospital.

Once the computer was set up a template had to be developed for the *Directory*'s data so that each record would have common fields and standard formatting. There are utilities available for coding in HTML but they have some restrictions so I created custom coding .

As Women's College Hospital is not a node on the Internet, the coded records were sent to Information Technologies at the University of Toronto (U of T) to be mounted on the Net. The *Directory* can be searched directly at URL **http://library.utoronto.ca/www/ wch** or as an option through the UofT Home Page under *Academic departments and affiliates.*

Since there was no previous home page for Women's College Hospital, the directory's Web page represents Women's College on the Internet. Some information on Women's College Hospital, as well as links to Women's Health survey press releases have been included. The Home Page will be updated on an ongoing basis.

This project has significantly widened my professional horizons. As information professionals, library workers must increasingly involve themselves in the creation of innovative electronic products and services. I hope I have played a small part in paving the way. If you have any questions or comments about the project please feel free to contact me. ∎

Consumer Health Information on the Web
compiled by Jan Johnson

Below are a selected number of sites with consumer health information links. They may prove useful to those who do not have an inhouse collection dedicated to consumer needs, yet are called upon to service queries from the public.

1. General

Ability Index Page
Run by the Charities Ability, Ability into Print and Ability BBS in the UK. Well-organised list of links to pages according to name of disease or disorder.
http://www.ability.org.uk/index.html

Consumer and Patient Health Resources
Compiled by National Network of Libraries of Medicine, Pacific Northwest Region staff, this is a listing of links, rather links to the information itself.
http://www.nnlm.nlm.nih.gov/pnr/etc/conshlth.html

Consumer Health Information
Page on Inter-Links, created and maintained by a professor at Nova Southeastern University, Florida
http://www.nova.edu/Inter-Links/health/consumer.html

DataStore Medicine File
Somewhat incongruous offering from a Data and Information Storage company, but links to some very good resources
http://www.datastore.com/MedicalReferenceFile.html

Dr. Dave's Medical Resource Files
Maintained by a family physician based in Stratford Ontario, this is one of the few which attempts a classified rather than alphabetical approach to its links.
http://www.sentex.net/~lwr/patient.html

Family Health
For those with playback capacities for audio files. Each file is about 1.2 mb, or approximately 2-1/2 minutes in length. Coverage is aimed at "the common health problems about which people are likely to ask their physicians". Index at:
http://www.tcom.ohio.edu/family-health/fh-index.html

Health Resources
Brought to you by the Medical Reporter.
http://www.coolware.com/health/joel/indx.html

Illness
Tom Flemming's *Illness* page is organised alphabetically, with helpful links to a vast range of conditions.
http://www-hs1.mcmaster.ca/tomflem/ill.html

Med Help General Library
One of the more comprehensive listings of health topics with associated links, maintained by this non-profit organisation. Med Help's home page has been ranked in the top 5% by Point Survey.
http://medhlp.netusa.net/general/general.htm

MedWeb: Consumer Health
From Emory University Library, this is one of the most comprehensive sources, but is as yet, poorly organised.
http://www.cc.emory.edu/WHSCL/medweb.consumer.html

Online Health Topics
Developed and maintained by San Francisco-based Internet Health Resources Company.
http://www.ihr.com/topics.html

PPS Online Conditions Catalog
Still in beta test phase and very much under construction, this could be a promising source in its more complete form.
http://www.pps.ca/Pharma/conditions/condintro.html

Patient/Consumer Health Information
A classified listing compiled by librarians at Dykes Library in Kentucky. Each resource has been reviewed for content, format and ease of use, but links are not at this point extensive.
http://www.kumc.edu/service/dykes/RRPAGES/patient/phm page.html

2. Specialised

CenterWatch Clinical Trials Listing Service
An international listing of clinical research trials and newly approved drug therapies (US). Click on "Clinical Trials Listing" for ongoing clinical trials actively recruiting patients. Another top 5% Point Survey rating.
http://www.centerwatch.com

Mental Health Net - Self Help Resources
Supported by CMHC Systems, Ohio, this page acts as a guide to some of the best mental health sites on the Internet.
http://www.cmhcsys.com/selfhelp.htm

PEDINFO Condition- or Disease-Specific Info
Pediatric information links maintained at the Lister Hill Library of the Health Sciences, University of Alabama.
http://www.lhl.uab.edu/pedinfo/Diseases.html ∎

Report from CISTI

Submitted by Dianne Pammett
CISTI-MEDLARS

CISTI's Online Catalogue

Clients can search CISTI's Online Catalogue and order documents from CISTI using either the Internet or DATAPAC (at the address previously used by the CAN/OLE System). CISTI's catalogue is updated weekly and provides records on over 50,000 journals, and more than half a million books, reports, and conference proceedings from around the world.

Access via the Internet is free. Canadian clients who access CISTI's Online Catalogue using a commercial telcommunications network, such as DATAPAC, will be charged $15.00 per connect hour for telecommunications. U.S. clients will pay $20.00 (U.S.) per connect hour for SPRINTNET or MCI Data Communications.

Before placing a document order, clients must register with CISTI (no cost).

Clients with a CISTI account number beginning with the prefix FGH, or WK already have registered, have an account number and password and can submit orders. Clients with accounts beginning with DD can contact CISTI Client Registration (below) to obtain a password. If copyright fees apply, they are shown prior to proceeding with the order. Since orders submitted by either the Internet or by DATAPAC flow directly into CISTI's automated document delivery system, processing costs are reduced. CISTI passes these cost savings on to clients in the form of lower service fees.

To register, please contact CISTI's Client Registration at:

Phone: 1-800-668-1222 or in Ottawa at (613) 998-8544
FAX: (613) 952-8244
E-mail: ccrs@cisti.lan.nrc.ca

To register electronically, fill out the Client Registration Form found on the Web at:

www.cisti.nrc.ca/cisti/register.html

CISTI Online Catalogue Internet address:

Internet access (Anonymously) Internet access (Registered user)
Telnet to: cat.cisti.nrc.ca   Telnet to: info.cisti.nrc.ca
Login: cat   Login: fgh##### or WK#####
Password: press ENTER key   Password: enter your password

CISTI Online Catalogue DATAPAC address:

20800342

LOGON userid: fgh... (your FGH, WK or DD account number)
Password: enter your password

Remember CISTI's Web site address:

www.cisti.nrc.ca/cisti/cisti.html

CISTI's 1996 Prices

Subscribers will be notified by mail of new prices to take effect on 1 April 1996. These new prices will also be announced on our Web site at: www.cisti.nrc.ca/cisti/cisti.html

DOCLINE Update

The tape of holdings for Canadian libraries participating in DOCLINE was sent to NLM for the end of November 1995. However, due to the furlough of the U.S. government, the tape was not loaded into SERHOLD in December, but in January 1996. A total of 15,204 holdings statements were contained on the tape.

Holdings from the following libraries were included on the tape:

University of Calgary
University of Calgary, Medical Library
University of Alberta, J W Scott Health Sciences Library
University of British Columbia, Woodward Biomedical Library
University of Manitoba Medical Library
University of Manitoba Neilson Dental Libary
Memorial University, Health Sciences Library
Dalhousie University, Kellogg Health Sciences Library
Queen's University, Bracken Library
University of Toronto, Science and Medicine Library
McGill University, Health Sciences Library
McGill University, Osler Library
Université Laval, Bibliothèque scientifique
University of Saskatchewan, Health Sciences Library
CISTI

and the following hospital libraries in the Montreal area:

Douglas Hospital, Staff Library
Jewish Rehabilitation Hospital Library
Montreal Chest Hospital Centre
Montreal Children's Hospital, Medical Library
Montreal General Hospital, Medical Library
Montreal General Hospital, Nurses' Library
Montreal Neurological Institute
Royal Victoria Hospital, Allan Memorial Institute
Royal Victoria Hospital, Medical Library
Royal Victoria Hospital, Women's Pavillion Library
Sir Mortimer B Davis Jewish General Hospital, Medical Library
Sir Mortimer B Davis Jewish General Hospital, Institute of Community and Family Psychiatry
Sir Mortimer B Davis Jewish General Hospital, Lady Davis Institute
St Mary's Hospital Centre, Health Sciences Library

With the addition of these new libraries and holdings, there are now 76 Canadian libraries capable of actively using DOCLINE. ■

Rapport de l'ICIST

Soumis par Dianne Pammett
ICIST-MEDLARS

Le catalogue en direct de l'ICIST

Les clients peuvent dorénavant consulter le catalogue en direct de l'ICIST et y commander des documents à l'aide de l'Internet ou de DATAPAC (à l'ancienne adresse du système CAN/OLE). Le catalogue de l'ICIST est mis à jour chaque semaine et recense des notices sur plus de 50 000 périodiques ainsi que sur plus d'un demi-million de livres, de rapports techniques et de comptes rendus de conférences du monde entier.

L'accès par Internet est gratuit. Les clients du Canada qui accèdent au catalogue en direct de l'ICIST par l'entremise d'un réseau de télécommunications commercial, tel que DATAPAC, doivent prévoir des frais de 15 $/heure de connexion. De leur côté, les clients américains paieront 20 $US/heure de connexion pour l'accès par SPRINTNET ou MCI.

Avant de pouvoir commander des documents, les usagers doivent s'inscrire auprès de l'ICIST à titre de client (cette inscription est gratuite). Les clients qui ont un numéro de compte de l'ICIST commencant par FGH ou WK sont déjà inscrits et disposent du numero de compte et du mot de passe nécessaires pour commander des documents. Les clients dont le numéro de compte commence par DD peuvent simplement communiquer avec l'Inscription de la clientèle (voir ci-dessous) pour obtenir un mot de passe. Si les commandes prévoient des redevances de droit d'auteur additionnelles, une mention à cet égard apparaîtra à l'écran avant la commande. Étant donné que les commandes transmises parInternet ou DATAPAC sont traitées directement par le système de fourniture automatisé de l'ICIST, les coûts de main-d'oeuvre sont réduits. Ces économies se reflètent sur le coût aux clients, qui profitent alors d'un tarif préférentiel.

Pour vous inscrire en tant que client, communiquez avec l'Inscription de la clientèle de l'ICIST:

Téléphone: 1-800-668-1222, ou a Ottawa (613) 998-8544
Télécopieur : (613) 952-8244
Électroposte : ccrs@cisti.lan.nrc.ca

Pour vous inscrire par voie électronique, remplissez le formulaire à cette fin, que vous trouverez sur le Web à l'adresse:

www.cisti.nrc.ca/cisti/registef.html

Acces au catalogue en direct de l'ICIST:

Par Internet (usager anonyme)	Par Internet (usager inscrit)
Telnet: cat.cisti.nrc.ca	Telnet: info.cisti.nrc.ca
Compte: cat	Compte: fgh##### ou WK#####
Mot de passe: touche ENTER	Mot de passe: votre mot de passe

Par DATAPAC:

Adresse: 20800342
LOGON: fgh...(votre numéro de compte FGH, WK ou DD)
Mot de passe:votre mot de passe

Et vous pouvez toujours accéder à la page d'accueil Web de l'ICIST:

www.cisti.nrc.ca/cisti/cisti.html

Tarifs de l'ICIST - 1996

Les inscrits recevront par courrier un avis portant sur les nouveaux tarifs, qui entreront en vigueur le 1er avril 1996. Le nouveau barème apparaîtra aussi sur notre site Web, a l'adresse: www.cisti.nrc.ca/cisti/icist.html

Nouvelles de DOCLINE

La bande du fonds documentaire des bibliothèques canadiennes participant à DOCLINE a été envoyée à la NLM à la fin de novembre 1995. Toutefois, étant donné l'interruption des services gouvernementaux aux É.-U., la bande a été intégrée à SERHOLD en janvier 1996 plutôt qu'en décembre 1995. La bande contenait des données sur 15 204 états de fonds documentaire.

Bibliothèques universitaires/de recherche ayant versé leur fonds documentaire:
University of Calgary
University of Calgary, Medical Library
University of Alberta, J W Scott Health Sciences Library
University of British Columbia, Woodward Biomedical Library
University of Manitoba Medical Library
University of Manitoba Neilson Dental Libary
Memorial University, Health Sciences Library
Dalhousie University, Kellogg Health Sciences Library
Queen's University, Bracken Library
University of Toronto, Science and Medicine Library
McGill University, Health Sciences Library
McGill University, Osler Library
Université Laval, Bibliothèque scientifique
University of Saskatchewan, Health Sciences Library
ICIST

Bibliothèques médicales de la région de Montréal ayant versé leur fonds documentaire:
Hôpital Douglas, Bibliothèque du personnel
Bibliothèque de l'Hôpital juif de réadaptation
Centre hospitalier thoracique de Montréal
Hôpital de Montréal pour enfants, Bibliothèque médicale
Hôpital général de Montréal, Bibliothèque médicale
Hôpital général de Montréal, Bibliothèque des infirmières et infirmiers
Institut neurologique de Montréal
Hôpital Royal Victoria, Institut Allan Memorial
Hôpital Royal Victoria, Bibliothèque médicale
Hôpital Royal Victoria, Bibliothèque du pavillon des femmes
Hôpital général juif - Sir Mortimer B. Davis, Bibliothèque médicale
Hôpital général juif - Sir Mortimer B. Davis, Institut de psychiatrie communautaire et familiale
Hôpital général juif - Sir Mortimer B. Davis, Institut Lady Davis
Centre hospitalier St Mary, Bibliothèque des sciences de la santé

L'ajout de ces nouvelles bibliothèques et de leur fonds documentaire veut dire que soixante-seize bibliothèques canadiennes sont maintenant membres actifs de DOCLINE. ■

Report of the Resource Sharing Task Force

Since the conference in St. John's, the Resource Sharing Task Force (RSTF) has focused a large part of its energies on communication between RSTF and the association chapters.

First, we initiated a "buddy" system, linking members of RSTF directly to particular chapters. In talking to the chapters, buddies have been learning in detail how every locale's scenario differs. For some internet access is still off in the hazy future; while some chapters are up and running on DOCLINE, others are arranging for introductory sessions. Across the country, no two chapters are at the same place regarding resource sharing.

Next, the buddies distributed to the chapters a survey on Union List activity. Preliminary results illustrate all the different ways local chapters have cracked the same nut. Results of the survey will be published in the next issue of BMC.

Then the task force published a newsletter that the buddies distributed to the chapters. The newsletter summarized the results of the round table discussions on resource sharing that were held in St. John's and included both a model for setting up routing tables in DOCLINE and a model for establishing a DOCLINE users' group. Extra copies are available at the address below.

One of the most exciting chapter activities has been the Alberta/BC pilot resource sharing trial. It had been held up by delays in loading the Alberta libraries' records into SERHOLD, but is now up and running. Meanwhile, across the country, the ACMC libraries now using DOCLINE include Alberta, UBC, Calgary, Dalhousie, Manitoba, Memorial and Queens.

The task force is learning a great deal, most of it through the courtesy of chapter members, who have been generous with their time and good humour. Thank you.   ∎

Patrick Ellis, Chair
Resource Sharing Task Force
W.K. Kellogg Health Sciences Library
Dalhousie University
Halifax, N.S. B3H 4H7
pellis@ac.dal.ca

News, Notes and Columns

Ask Doctor DOCLINE

Questions to *Doctor DOCLINE* are fielded by the Resource Sharing Task Force (RSTF) in order to answer the sort of questions that no manual or help screen seems to address. Direct your questions to any of the Chapter Buddies: Charlotte Beck, Joan Leishmann, Lea Starr or to:

Patrick Ellis, Chair RSTF
W.K. Kellogg Health Sciences Library
Tupper Building
Dalhousie University
Halifax, N.S., B3H 4H7
Tel: (902) 494-2482
Fax: (902) 494-3750
Envoy: ILL.KELLOGG

Q. Once on DOCLINE, can one get off if the system seems unsuitable?

A. Sure. Although, if you want to take a harder look at DOCLINE before getting in "too deep", the National Library of Medicine has created a handy video called DOCLINE FOR DOCU-MENT DELIVERY (two thumbs up). Copies of the video are held in Canadian libraries and can be obtained through Interlibrary Loan.

Q. Is there a penalty if you are unable to fill the load of requests sent to you?

A. No. Routing tables are not carved in stone. If you find yourself on the receiving end of more re-quests than you can contend with, ask the requesting library to move you to another cell, or even to take you out of their routing tables completely. The obverse of this has been the recent practice of borrowing libraries asking potential lending libraries for permission to include them in their routing tables.

Q. Will specialised collections be overloaded with requests which they may not be able to fill? If yes, would an acceptable solution be to substantially increase charges to the librar-ies which are not part of one's local group?

A. First, I would ask the borrowers to move you to another cell. (See Recommended Routing Ta-ble Set Up, in the Fall issue of the *Resource Sharing Task Force Newsletter*, p. 7.) Turning DOCLINE routing to their advantage, specialised libraries may want to create cells in their routing tables particularly among themselves (eg. create a cell for long term care libraries). ∎

Golden Horseshoe Health Libraries Association (GHHLA)

The Golden Horseshoe Health Libraries Association held its first Annual General Meeting on Tuesday, November 21, 1995 at the Central Branch of Hamilton Public Library. The current GHHLA membership stands at 31, representing 22 institutions in the area; 15 members attended the AGM.

President Liz Bayley welcomed the members, and introduced the new executive: Susan Armbrust from The St. Catherines General Hospital is the Vice-President/President-Elect by acclamation, and Gayle Fitzgerald, St. Joseph's Hospital, is staying on for a second term as Secretary/Treasurer. Liz Bayley, Health Sciences Library, McMaster University, assumed the presidency on July 21 when the first President, Leslie Sutherland, moved with her family to British Columbia.

The goals for 1995/96 include:
- to finalize and distribute the membership directory
- to compile the results of the software survey, in order to build up a mentoring/buddy system for the software programs being used by the members and to identify continuing education needs
- to conduct a skills survey of our membership
- to investigate the compilation of a union list of serials and resource sharing amongst members
- to offer a continuing education session in March
- to hold a meeting in May

April Windus finished the AGM with a very entertaining description and tour of the consumer health resources and services being offered by the Hamilton Public Library.

In June, Tom Flemming led our first continuing education session, giving a very knowledgeable presentation on health information resources available on the World Wide Web. Tom has mounted and maintains *Health Care Information Resources* (http://www-hs1.mcmaster.ca/tomflem/top.html), which was recently named by PC Computing among its top 1001 Web sites.

Susan Armbrust
Vice-President/President-Elect

London Area Health Libraries Association

Two of the largest hospitals in London, University Hospital and Victoria Hospital announced their merger this summer. In October, the agreement was ratified by the separate Boards, and is now at the Ministry of Health waiting for formal approval. Given the fact that that is probably just a rubber stamp, the merger is a fait accompli. No new name has been chosen, but the documents all read Victoria/University Hospital Corporation.

The merged Library Services will report to a Manager, Learning Services, who will report to the Vice-President Human Resources and Corporate Services. Discussions have taken place between both library services regarding the nature and scope of the services provided within both hospitals, as well as the opportunities and obstacles that might exist. No firm decisions have taken place.

London Psychiatric Hospital and St. Thomas Psychiatric Hospital are in the process of being combined. The senior administrative levels are now functioning as one. In December a recommendation was made to the District Health Councils that the London site be chosen to remain open. At this point we are not sure how this will affect Library Services. For now we both remain intact.

Due to severe budget cuts, the Child and Parent Resource Institute Library has not been able to renew any of its journals. They've had to come up with some brilliant ideas to cope and survive.

LAHLA has sponsored a initiative to get all its member libraries onto DOCLINE. Our target is to get it up and running by mid-year.

Mai Why
President

Manitoba Health Libraries Association (MHLA)

Report on DOCLINE Workshop:

With the support of a grant from the CHLA/ABSC Development Fund, a DOCLINE Workshop was presented by Jim Henderson in Winnipeg on September 22, 1995. DOCLINE packages were mailed to all MHLA member libraries prior to the workshop. Twenty-seven MHLA members attended.

After the workshop, an ad-hoc committee met with Jim to discuss implementation strategies. The committee decided that more information was required from MHLA member libraries prior to formally deciding to carry out implementation. A telephone survey was conducted to determine the technical and financial resources of our libraries and how well informed the staff were of DOCLINE.

The results of the survey indicated that about half of the member libraries had the technical capabilities to implement DOCLINE but funding was uncertain to cover the start up costs. At our fall general meeting, a motion was passed to carry out DOCLINE implementation in Manitoba. Another motion was passed to have MHLA subsidize the costs of the initial DOCLINE registration fee and uploading MHLA holdings into SERHOLD.

A DOCLINE implementation committee was created and recently met to plan implementation. The committee established a deadline of January 31, 1996 to have member libraries submit updates to our Union List. We plan to have the Union List updates completed and forwarded for SERHOLD uploading by February 28, 1996. Implementation completion is scheduled for April-May 1996. A training workshop and support documentation is planned to be in place by March 1996.

Implementation will be carried out in two phases. Phase I will focus on the libraries that are ready to start up DOCLINE. The second phase will implement DOCLINE at the other libraries as they acquire hardware and Internet access. Phase I libraries will be paired with phase II libraries on a mentorship basis to help in the transition.

The Manitoba Health Libraries Association looks forward to the benefits of participating in DOCLINE and will continue in its promotion within Manitoba.

William Poluha
President

Northern Alberta Health Libraries Association (NAHLA)

President: Peggy Yeh
Vice-President: Georgia Makowski
Treasurer: Sheila Fynn
Secretary: Linda Bumstead

Membership: 25

The rapid change in the Alberta healthcare sector has continued over the last year with both restructuring and cutbacks in all areas of health services and the accompanying support structures. Accordingly, the three areas of most interest to our membership this year for guest speakers were identified as Health System Restructuring in the Capital Health Authority region (Edmonton), Professional Negligence - Legal Liabilities of Librarians, and Alternative Therapies. Our first meeting was held in November with speaker Larry Odegard, Vice-President, Planning and Evaluation, Capital Health Authority. Mr. Odegard presented an enlightening talk regarding the reasoning behind some of the changes in the CHA followed by discussion with NAHLA members. Planning is underway to address our other two topics of interest.

In September, NAHLA submitted an application to the CHLA/ABSC Development Fund, 1995/96, for support of a Consumer Health Directory of Edmonton and Area. We are delighted to announce that the Development Fund approved funding of $1000 for this project. NAHLA is contributing funding up to $500. The Directory will be created by NAHLA's Consumer Health Information Interest Group and will be available in print as well as electronically through Edmonton Freenet. The purpose of the Directory is to provide a valuable tool to increase awareness and access to consumer health information available in the Edmonton area. The Directory is intended for the public as well as libraries, agencies, and associations. A questionnaire to collect the relevant information has been designed and data collection started in January, 1996. All participants listed in the Directory will receive a free copy of the finished product.

Georgia Makowski
Vice-President

Southern Alberta Health Libraries Association (SAHLA)

SAHLA has joined NAHLA (Northern Alberta Health Libraries Association) and HLABC (Health Libraries Association of BC) in a joint DOCLINE trial for a one-year term. The trial will evaluate life before DOCLINE and life after DOCLINE: turn-around times, fill rates and workload measurement. The trial, which was scheduled to commence on September 1, was postponed until January 2, 1996. Due to various problems at CISTI the tape containing our holdings was not loaded until late November so up until this point most DOCLINE requests were routed to the BC group. Once the tape was loaded in SERHOLD routing proceeded as per the routing cells and the problems were rectified. One organisation in SAHLA has purchased Quickdoc, but cannot get it to run. Our members are utilising DOCLINE and are enthusiastic about the program.

The Calgary Regional Health Authority is moving ahead with regionalising health care. The system is in turmoil but, to date, no major changes have occurred in the libraries. This is expected to change in the new year. The librarians involved in regionalisation are working cooperatively towards a new vision.

Kim Polvi
President

Telemedicine Schedule

All sessions are on Mondays, 3:30-4:15 EST.

March 4, 1996 - **Training Volunteers in a Family Resource Library**
Speaker: Caren Mofford, Family Resource Library Manager, Izaak Walton Killam/Grace Health Centre, Halifax, NS
Moderator: Lois Wyndham

April 29, 1996 - **The Clinical Informatics Network (CLINT): Information Tools Supporting Evidence-Based Medicine**
Speaker: Dr. Robert Hayward, Assistant Prof., Clinical Epidemiology and Biostatistics, Health Information Research Unit, McMaster University, Hamilton, ON
Moderator: Lois Wyndham

June 10, 1996 - **Positioning the Library for Success in a Restructured Health Care Environment**
Speakers: Lea Starr, Librarian, Caritas Health Group Ltd., Edmonton, AB and current CHLA/ABSC President; Jennifer Bayne, Director, Fudger Library, The Toronto Hospital, Toronto, ON; third speaker to be determined
Moderator: Lois Wyndham

CHLA / ABSC 1996

20th Anniversary Celebration: **Creative Connections**
Delta Chelsea Inn Toronto: June 12th - 17th, 1996

You are cordially invited to attend the 20th Anniversary conference of the Canadian Health Libraries Association / Association des bibliothèques de la santé du Canada (CHLA/ABSC).

The conference will be held at the Delta Chelsea Inn in Toronto, Ontario, from June 12-17, 1996. The Delta Chelsea Inn is within walking distance of the Eaton Centre, the shops at College Park, the University of Toronto, Toronto's theatre district, and many of the downtown hospitals. The subway line and its connections to all of Toronto's many attractions, including Harbourfront, is only a few blocks away.

The theme of the conference, Creative Connections, will allow you to explore the concurrent themes of Technology, Community, Education and Clinical Care within the context of today's expanding global neighbourhood and the realities of the shrinking distances between health science information professionals, their suppliers, and their customers. This challenge is magnified by the requirement to create these new connections and personalize the new technology against a backdrop of changing policies, new priorities and fiscal restraint.

The conference will start with three full days of Continuing Education, scheduled for Wednesday to Friday, June 12th to 14th.

The CE courses will cover such topics as Mastering the Web; Searching the Web, Designing and Maintaining Home Pages, Document Delivery in the Electronic Age, and How to Write and Present a Business Plan. On Friday evening, a special Opening Reception will be held in honour of the association's 20th anniversary - this will take place at the Thomas Fisher Rare Book Library at the University of Toronto. Of particular interest to the medical library community is the fact that the Rare Book Library houses a significant History of Medicine collection.

Saturday, Sunday and Monday, June 15th through 17th, will offer a packed program of panel discussions, special speakers, and invited or contributed papers. Other papers and panel discussions include: Library Connections: Creativity and Chaos; Copyright; Accreditation Q & A; Collection Development in the Electronic Age; Fee for Service; Reference Uses of the Internet; Evidence-based Practice; CISTI and Resource Sharing/DOCLINE Update Presentations; Problem-based Learning Survey Results; Health Policy & Restructuring and New Information Resources.

In addition to all of this, watch for details about a "Night on the Town", the annual banquet (Sunday evening at the Delta Chelsea), two days of exhibits and workshops (Saturday & Sunday), and a two-day Poster Session (Sunday & Monday).

Visit us on the World Wide Web at:

http://www.imr.on.ca/~contact/chla96.html

OR

E-mail us at:

CHLA96@ices.on.ca

Professional Development Opportunity

"Library and Information Leadership Institute 1996: Leadership in the Medical Library" will be held March 28-29 in Austin Texas. Co-sponsored by the Graduate School of Library & Information Science at The University of Texas and The National Network of Libraries of Medicine--South Central Region, advance registration is required; $ 275 ($ 25 deposit) due by March 7. After March 7, registration can be done on a space available basis.

For a copy of the brochure and registration form, send your fax number or mailing address to David Terry, E-mail: dterry@uts.cc.utexas.edu, Fax: (512) 71-3971, Tel: (512) 471-8806.

LIBRARY ADVOCACY NOW!

Advocacy Team Formed

Thirteen members of the library community met in Calgary on November 25 and 26, 1995, to develop a national advocacy training programme. Based on the successful "Library Advocacy Now!" initiative of the American Library Association, the Canadian version will be launched in the spring of 1996.

For the first year of its operation the Advocacy Team will consist only of the original thirteen members who volunteered at the Advocacy Pre-Conference at the CLA Conference in Calgary. Initially, they will not be directly affiliated with any library association or institution. This is in order to get things underway quickly and then ascertain the best positioning for the programme within the Canadian library community.

Divided into geographical working committees, the team members are:

Fundraising Committee (Toronto-based):
Edmundo Vasquez, Toronto Public Library;
Margaret Andrewes, CNIB;
Shirley Lewis, Shirley Lewis Information Services and
Elaine Watkinson, Gaylord Bros. Canada.

Programme Development Committee (British Columbia-based):
Ken Haycock, School of Library, Archival and Information
   Studies, UBC;
Gordon Ray, Public Library InterLink and
Greg Buss, Richmond Public Library.

Communications Committee/Secretariat (Alberta-based):
Pat Cavill, Pat Cavill Consulting;
Karen Labuik, Marigold Library System;
Hazel Fry, Council of Prairie and Pacific University Libraries;
Raphael Thierrin, Association of Records Managers and
   Administrators;
Linda Davis, Western Canada High School and
Linda Cook, Yellowhead Regional Library.

Team Leader Explains Membership

"I have had a lot of calls from across the country asking why a particular geographic area was not represented on the committee, or why a particular library association or group did not have a seat at the table", Pat Cavill, Advocacy Team Leader, said. "My explanation is that I went for passion, not for geography! When you are asking people to come forward with a lifetime commitment to a project, it's the commitment that is important, not where they live."

"Coincidentally, though, without even trying, we have people from all types of libraries on the team, plus a trustee and two vendors. And although team members are not official delegates, they are encouraged to liaise with their own constituencies," Cavill added.

The Advocacy Training Programme

The programme will initially be in two distinct parts: "training the trainers" and then "training the advocates". The first part of the programme to be developed will be "training the trainers".

At provincial conferences in the spring (dates and locations to be confirmed), the people who are going to train advocates will be trained.

Trainers will be required to commit to conducting training programmes in their own province or constituency. Librarians, library technicians, trustees vendors—anyone who is prepared to take their passion for libraries public—will be trained to train. The programme is looking for enthusiastic individuals who already have a degree of comfort in the political arena; who are enthusiastic about public speaking; who believe in the future of libraries and that planned, deliberate, sustained advocacy can and will make a difference.

It is only after an appropriate number of trainers have been trained that the actual programme of advocacy training will be implemented.

The second phase, likely commencing in the fall of 1996, is the identification, recruitment and training of potential advocates. Although librarians can be powerful advocates, the intent of this phase of training is to mobilize library users (e.g. trustees, community leaders, students, decision makers) to speak out for libraries.

CLA & Gaylord support "Library Advocacy Now!"

The Canadian Library Assoication has provided the "Library Advocacy Now!" Team with $5,000 seed money to get the project underway. This includes an amount for airfare to send three team members to ALA mid-winter (San Antonio, January, 1996) to be trained as advocacy trainers, and to observe an actual training programme in action.

"This is an important initiative which will ultimately benefit all types of libraries in Canada," said CLA President Penny Marshall. "The Canadian Library Association is pleased to support the team of advocacy 'champions' in the development of this training programme."

Gaylord Bros. Canada has also thrown its support behind "Library Advocacy Now!" It provided funding for the President's Pre-Conference on Advocacy (CLA Conference, Calgary, June 1996), and for the first meeting of the Advocacy Team. Gaylord has also provided promotional materials, and will have a "Library Advocacy Now!" kiosk as part of its regular library conference exhibit. "I get asked for donations all the time from a variety of library associations and organizations," said Elaine Watkinson, Canada's national sales manager for Gaylord. "By supporting 'Library Advocacy Now!', I can help make a difference in all libraries."

The Advocacy Mission and Goals

Mission:

To champion advocacy for libraries throughout Canada.

Goals:

* To ensure universal access to information and to empower information professionals and trustees

* To advance libraries and information professionals to the top of the political agenda

* To plan, implement and promote a national programme to train library advocates

* To mobilise information professionals, library users, opinion leaders, trustees and other people to speak out on behalf of libraries and their crucial role in the information society

* To ensure that there is a positive public perception of the role of libraries and their value to society

* To provide a forum for people to work in library advocacy (Working draft approved November 26, 1995)

Sincere appreciation is extended to the American Library Association for its enthusiastic cooperation and support.

FOR FURTHER INFORMATION:

Watch for information on "Library Advocacy Now!" in Feliciter, other Library Association newsletters, and conference programmes, or contact:

Pat Cavill, Team Leader,
Library Advocacy Now!
651 Willow Brook Drive S.E.,
Calgary, Alberta T2J 1N6
Phone/Fax (403)278-1630
E-mail: pcavill@acs.ucalgary.ca

HEALTH SCIENCES LIBRARIAN

The Grey Bruce Regional Health Centre has a vacancy for a temporary full time Health Sciences Librarian to cover a six month maternity leave.

Responsibilities of this solo librarian include provision of customer-focused health information to physicians, health care providers and patients using print and electronic resources; maintaining the integrated library system (NUTSHELL/ULTRAPLUS) and the CD-ROM workstation; budget administration; collection development; classification and cataloguing; bibliographic instruction and orientation; committee work and acting as a library consultant for hospitals and health agencies in the region.

Candidates require an M.L.S./M.L.I.S. from an A.L.A. accredited library school. Excellent written and verbal communication skills are also essential for the position. Candidates should be proficient in the use of MEDLARS, OVID/CDP databases and possess internet search skills. A minimum of two years of health sciences library experience is preferred.

The Health Centre is a 303 bed modern, smoke free facility located in Owen Sound, Ontario, a small city on the shores of Georgian Bay. The area offers a wide range of activity within close proximity to major urban centres.

Qualified candidates are invited to submit a resumé by March 15, 1996, to:

Human Resources Co-ordinator
Grey Bruce Regional Health Centre
P.O. Box 1400, 1400 - 8th Street East
Owen Sound, Ontario N4K 6M9
FAX: (519) 376-1846

THE UNIVERSITY OF MANITOBA LIBRARIES

Invites Applications for the Position of
Resource Development Librarian
Neil John Maclean Library for the Health Sciences

Reporting to the Head, Neil John Maclean Library, the incumbents responsibilities include the following: To work with the administration in overall planning and management of library resource development. To identify, organize and make available electronic resources, whether as stand alone, on local area networks or on international networks such as the Internet, in a networked environment, e.g. CAI resources, electronic texts, electronic journals. To ensure the quality control of the bibliographic records and the integrity of the OPAC and to set standards for any original cataloguing that is required. To develop specialised local databases for CAI materials, video materials, etc. and to train staff in their maintenance and use. To participate in the education, reference, access and collection development programs of the Neil John Maclean Library, and in the planning and development of programs and systems in support of the Library's strategic and operational goals. Along with the Head of the Neil John Maclean Library, to establish policies and procedures for access to the archives of the Library. To maintain the finding tools for the archives of the Neil John Maclean Library. To represent the Library on appropriate committees.

RESOURCE DEVELOPMENT LIBRARIAN

Neil John Maclean Library

Qualifications: A degree from an ALA-accredited library program. An undergraduate degree in the sciences or health professions preferred, or substantial experience in a health library. Demonstrated knowledge of medical terminology and the use of the biomedical literature. Applicants must exhibit a well-developed understanding of the role of new technologies in libraries with specific experience in the use and application of microcomputers and CD-ROM systems, as stand alone, on local area networks or on international networks such as the Internet. Experience with the management of bibliographic information and knowledge of current cataloguing practices preferred. Strong interpersonal, oral and written communication skills are essential. Teaching and bibliographic instruction skills an asset. The candidates are expected to participate in professional development and relevant professional activities.

Effective date: April 1, 1996

Ranks and Salary Ranges:

General Librarian: The starting salary for this position will be in the range of $31,746.00 - $41,410.00 This position has a two-year probationary period. Librarians enjoy academic status with possibility of promotion.

The filling of this position is subject to final budgetary approval. The University of Manitoba encourages applications from qualified women and men, including members of visible minorities, aboriginal people and persons with disabilities. The University provides a smoke-free environment, save for specially designated areas. In accordance with Canadian immigration requirements, this advertisement is directed to Canadian citizens and permanent residents.

Submit application, including resume, salary expectations and the names of three references, by March 31, 1996, to:

Carolynne Presser
Director of Libraries
The University of Manitoba Libraries
Winnipeg, MB   R3T 2N2

CHLA/ABSC Standards For Library And Information Services In Canadian Healthcare Facilities, 1995

A major revision of the 1989 *CHLA/ABSC Standards for Canadian health care facility libraries.* These standards focus on the provision of knowledge-based, client-centred information, following the collaborative model developed by the Canadian Council on Health Services Accreditation (CCHSA). It also includes a glossary of terms, a resource bibliography, a self-evaluation checklist, and a key to the CCHSA Standards.

ISBN 0-9692161-4-5

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